

**UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA**

LORRAINE GREENE,

Plaintiff,

v.

THE UNITED STATES OF AMERICA,

Defendant.

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Case No: 1:18-cv-01962-CCC

**POST-TRIAL FINDINGS OF FACT AND CONCLUSIONS OF LAW OF
THE UNITED STATES OF AMERICA**

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The United States of America, by its attorneys, Bruce D. Brandler, Acting United States Attorney for the Middle District of Pennsylvania, Richard D. Euliss, Assistant U.S. Attorney, and Harlan W. Glasser, Assistant U.S. Attorney, respectfully submits the following requested findings of fact and conclusions of law.

I. INTRODUCTION

This Federal Tort Claims Act (“FTCA”) matter involves an injury to Plaintiff’s common bile duct and right hepatic artery that occurred during a laparoscopic cholecystectomy (“Lap Chole”) performed by Veterans Affairs General Surgeon, Ming Pan, M.D. The Parties agree that:

- these complications usually occur in the absence of negligence;
- a surgeon complies with the standard of care when he obtains the Critical View of Safety (“CVS”); and
- the CVS is a technique surgeons use to identify visually which biliary structures to clip and transect.

The factual evidence presented at trial confirms Dr. Pan obtained the CVS and establishes Ms. Greene’s injuries occurred, as they usually do, in the absence of negligence.

Dr. Pan testified unequivocally that he used the CVS during Ms. Greene’s Lap Chole, and the only other witness to the surgery, Gail Ryan, M.D., corroborates that fact. Through his use of the CVS, Dr. Pan documented initially uncovering only two structures connecting to the gallbladder, which, in normal anatomy, are the cystic duct and cystic artery. He took an intraoperative photograph of his thorough dissection and the structures connecting directly to the gallbladder. As he saw only two structures

connecting to the gallbladder, Dr. Pan believed, as the standard of care permitted, that those structures were the cystic duct and cystic artery. His belief was reasonable.

Unbeknownst to Dr. Pan at the time, Ms. Greene had a recognized, though rare anatomical variation that caused her gallbladder to connect – or convincingly appear to connect – directly to her common bile duct. Evidence of this variation was only discoverable after Dr. Pan had already clipped and cut what he believed was the cystic duct and while he continued to dissect the upper portion of the gallbladder. Ms. Greene’s variation provided a reasonable – albeit false – impression to Dr. Pan and Dr. Ryan they had identified a cystic duct that, in fact, did not exist.

The fact Dr. Pan believed Ms. Greene’s common bile duct was her cystic duct does not equate to negligence because the record firmly establishes Dr. Pan’s conduct – and belief – were reasonable. For this Court to find otherwise, it would have to reject the unequivocal testimony of the only two witnesses to the surgical procedure, ignore significant portions of Ms. Greene’s medical record, and then credit only the specious assumptions drawn by Plaintiff’s expert. Experts interpret facts; they do not create them. The facts point to Dr. Pan acting reasonably.

The Court therefore finds that Dr. Pan took the precautions necessary to meet the standard of care and that, due to an anatomical variation to Ms. Greene’s biliary anatomy, he reasonably concluded that Ms. Greene’s common bile duct was her cystic duct, leading him to clip and transect what, in hindsight, was the incorrect structure. Medical malpractice, however, is not strict liability, and a mistake is not negligence,

provided it was the result of reasonable conduct. Because Dr. Pan acted reasonably and Ms. Greene’s injuries, while unfortunate, were not the result of Dr. Pan deviating from the standard of care, the Court will enter judgment in favor of the United States.

II. LEGAL FRAMEWORK

1. The United States can be liable to a plaintiff under the FTCA only “in the same manner and to the same extent as a private individual under like circumstances.” 28 U.S.C. § 2674.

A. Pennsylvania Medical Professional Negligence Law Applies

2. The liability of the United States under the FTCA is determined by the law of the state where the allegedly tortious act occurred. *DeJesus v. U.S. Dep’t of Veterans Affairs*, 479 F.3d 271, 279 (3d Cir. 2007).

3. To establish a medical professional negligence claim in Pennsylvania, the plaintiff has the burden of proving: (1) a duty owed by the physician to the patient; (2) a breach of that duty; (3) a proximate causal link between that breach and an injury; and (4) an injury to the patient. *See Toogood v. Rogal*, 824 A.2d 1140, 1145 (Pa. 2003).

4. “[T]here is no cause of action in Pennsylvania for negligent documentation.” *Shober v. St. Joseph Med. Ctr.*, 236 A.3d 1130, 2020 WL 2026118, *8 (Pa. Super. Apr. 27, 2020); *see also Rivera v. Scaffidi*, 42 Pa. D. & C. 5th 468, 2014 WL 12862424, *3 (Pa. Com. Pl. Lehigh Cnty. 2014).

B. Duty

5. “[A] physician is neither a warrantor of a cure nor a guarantor of the result of his treatment.” *Mitchell v. Shikora*, 209 A.3d 307, 315 (Pa. 2019) (citing *Collins v. Hand*, 246 A.2d 398, 400-01 (Pa. 1968); 40 P.S. § 1303.105).

6. Rather, a physician owes a duty to his patient to “exercise the care and judgment of a reasonable man in like circumstances.” *Smith v. Yohe*, 194 A.2d 167, 170 (Pa. 1963).

C. Breach of Duty

7. “[T]here is no presumption or inference of negligence merely because a medical procedure terminated in an unfortunate result which might have occurred despite the exercise of reasonable care.” *Id.* (quoting *Collins*, 246 A.2d at 401).

8. Rather, “[a] physician owes his patient a duty to employ that degree of knowledge, skill, and care ordinarily possessed by members of the medical profession. There is no requirement that he be infallible, and making a mistake is not negligence as a matter of law.” *Toogood*, 824 A.2d at 1150 (internal citation omitted).

9. Therefore, “[w]here a physician exercises ordinary care and skill, keeping with recognized and approved methods, he is not liable for the result of a mere mistake of judgment. There is no responsibility for error of judgment unless it is so gross as to be inconsistent with the degree of skill which it is the duty of every physician to possess.” *Hodgson v. Bigelow*, 7 A.2d 338, 342 (Pa. 1939).

10. A physician's practice of medicine should "not be condemned in hindsight." *Toogood*, 824 A.2d at 1151.

11. Pennsylvania recognizes the "two schools of thought doctrine," which "provides a complete defense to medical malpractice. *Jones v. Chidester*, 610 A.2d 964, 969 (Pa. 1992). The two schools of thought doctrine provides:

Where competent medical authority is divided, a physician will not be held responsible if in the exercise of his judgment he followed a course of treatment advocated by a considerable number of recognized and respected professionals in his given area of expertise.

Id.

D. Causation

12. A plaintiff must establish a causal connection between defendant's negligent conduct and [her] injury. *Hamil v. Bashline*, 392 A.2d 1280, 1284 (Pa. 1978).

13. Even if the defendant's conduct was negligent, "the defendant's negligent conduct may not ... be found to be a substantial cause where the plaintiff's injury would have been sustained even in the absence of the actor's negligence." *Id.*

E. Damages

14. "Damages are never presumed; they must be proved by competent credible evidence." *Endler v. United States*, 101 F. Supp. 332, 334 (M.D. Pa. 1951) (citing *Rice v. Hill*, 172 A. 289, 291 (Pa. 1934)).

15. A medical malpractice plaintiff in Pennsylvania "must present expert testimony to establish ... the extent of the injury." *Toogood*, 824 A.2d at 1145.

16. In determining past and future noneconomic damages, the trier of fact should consider the plaintiff's age and prior health condition, the severity and duration of the injuries, the impact the injuries have affected her ability to perform basic activities of daily living, whether additional treatment will be needed in the future, the severity and duration of any physical and mental pain and suffering, and the extent to which any disfigurement has and will affect the plaintiff's life. *See* Pa. S.S.J.I. (Civ.) 14.150.

17. A plaintiff has a duty to mitigate her damages; therefore, it is proper to consider the failure of the plaintiff to undergo surgery or medical treatment that an ordinarily prudent man would have submitted to under the circumstances in an effort to better his condition.” *Yost v. Union R.R. Co.*, 551 A.2d 317, 322 (Pa. Super. 1988).

III. PROPOSED FINDINGS OF FACT

A. Medical Background

1. Classic Biliary Anatomy: Only two structures connect to the gallbladder

1. The gallbladder is a balloon-shaped organ situated underneath the liver and above the small bowel that stores bile produced in the liver. [Defense Exhibit (“D.E.”) 43; Trial Transcript Day 2 (“Tr. B”), p. 56:19-20, 56:24, 111:1-2.] While a separate organ, the gallbladder is adhered to the liver bed. [*See id.*; *see also* Trial Transcript Day 1 (“Tr. A”), pp. 71:8-9; 78:17-21.]

2. A tubular structure known as the common duct connects the liver to the small bowel. [D.E. 43.]

3. In a patient with normal biliary anatomy, the gallbladder does not directly enter the common duct. [*Id.*; *see also* Tr. A, p. 44:7-9.]

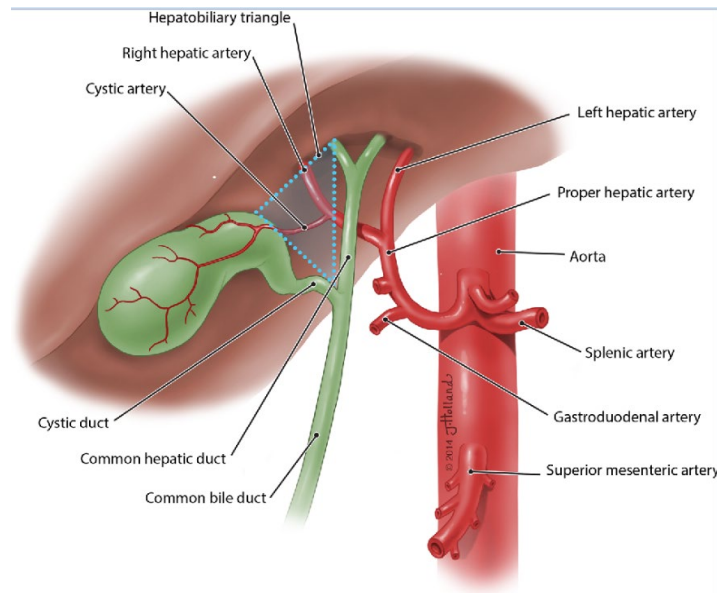
4. Rather, in a patient with normal biliary anatomy, a structure known as the cystic duct connects to the neck of the gallbladder. [D.E. 43; Tr. A, p. 71:4.] The cystic duct is the bilateral pathway for bile to travel to and from the gallbladder. [Tr. B, p. 111:2-4.]

5. In a patient with normal biliary anatomy, the cystic duct joins the neck of the gallbladder to the common duct. [D.E. 43; *see also* Tr. B, p. 192:4-6.] While a single tubular structure, the portion of the common duct proximal to (above) the point at which the cystic duct connects is known as the common hepatic duct, and the portion of the common duct distal to (below) the point at which the cystic duct connects is known as the common bile duct. [D.E. 43; Tr. B, p. 164:24-25.]

6. In a patient with normal biliary anatomy, the cystic duct does not connect to the liver. [D.E. 43; Tr. B, p. 178:13-16.]

7. Also connected to the gallbladder is the cystic artery, which supplies blood to the organ. [D.E. 43.] The cystic artery branches off from the right hepatic artery which, in turn, is one of several sources of blood to the liver. [*Id.*; Tr. B, p. 120:5-11.]

8. Therefore, as depicted below, in normal anatomy, the cystic duct and the cystic artery are the only two structures entering the gallbladder:



[D.E. 43.]

9. It is well-established that not every patient shares this textbook depiction of biliary anatomy. [See *infra* ¶¶ 154-156.] In fact, statistically, the biliary tree is the area of the human body with the most significant incidence of anatomical variation. [Tr. A, p. 117:9-11; Tr. B, pp. 87:25-88:1.]

2. Cholecystectomy Process

- a. A cholecystectomy requires the surgeon to identify, clip, and transect the only two structures connecting to the gallbladder

10. A cholecystectomy is the surgical removal of a patient's gallbladder through transection of the cystic duct and cystic artery, *i.e.*, the only two structures that normally connect the gallbladder to the biliary tree. [D.E. 1-5, p. 1; Tr. A, pp. 32:25-33:2; see *supra* ¶ 8.]

11. While gallbladder removal previously involved open abdominal surgery, in 2016 and today, a common method for cholecystectomies is to use a laparoscope.

[Tr. A, p. 116:1-8.]

12. A laparoscopic cholecystectomy (“Lap Chole”) involves the surgeon inserting a small laparoscopic camera and other surgical instruments through four ports in the patient’s abdomen under general anesthesia. [D.E.1-5.]

13. The camera, inserted through a port located at the umbilicus, provides the surgeon with a two-dimensional view of the patient’s three-dimensional internal organs on a television screen. [Tr. B, p. 184:21-23, 192:20-21.]

14. The surgical instruments include two graspers and a dissector, which permit the surgeon to grasp, retract, dissect, clip, cut, and remove the gallbladder through one of the ports. [Tr. A, p. 187:14-18; Tr. B, p. 171:16-19.]

15. Removal of the gallbladder, through either the open or laparoscopic method, requires the surgeon to clip and transect the only two structures entering the gallbladder, thereby separating the gallbladder from the biliary tree, and dissecting the gallbladder from the liver plate, thereby freeing the gallbladder for removal. [Tr. A, pp. 50:17-19, 71:10-12, 78:4-8; 187:11.]

b. A surgeon can follow either of the Two Schools of Thought to identify the relevant anatomical structures

16. A surgeon performing a Lap Chole complies with the standard of care when he uses either the Critical View of Safety (“CVS”) or the infundibular technique to identify the relevant biliary anatomy. [Tr. A, pp. 106:22-24; 109:2-11.]

17. Both the CVS and infundibular techniques are processes used to visually identify the relevant biliary anatomy. [Tr. A, p. 81:4-6 (“So now you can see those structures go nowhere but into the gallbladder”); *see also id.* at p. 96:10-12.]

18. Neither the CVS nor infundibular technique requires the surgeon to expose the common bile duct or the common hepatic duct. [Tr. B, p. 91:19-24 (Iannarone: “We don’t like to go into that area, because if we do go into that area we run the risk of injuring the common bile duct, the portal vein, or the hepatic artery”); Tr. A, p. 89:7-10 (Simon: “And you don’t want to injure the common bile duct, and the basic premise always has been try not to violate the tissues near the common bile duct because you’ll disrupt the small blood vessels to the common bile duct”); Tr. B, p. 46:20-23 (Pan: “For lap chole we do not expose common hepatic duct or common bile duct. Exposing them will cause the injury we try to avoid. So we don’t see the common hepatic duct or common bile duct”).]

19. The CVS is a three-step process to identify the cystic duct and cystic artery. **First**, the surgeon must dissect (separate and remove) all peritoneum and fatty/fibrous tissue from the Triangle of Calot, also known as the hepatocystic triangle.

[Tr. A, p. 70:2-13.] The three sides of the Triangle of Calot are (1) the cystic duct, (2) the common hepatic duct, and (3) the inferior edge of the liver. [D.E. 43; Tr. A, p. 46:8-10, 70:2-17.]

20. This dissection of the Triangle of Calot permits the surgeon to see “only two structures entering the gallbladder, a cystic artery and a cystic duct.” [Tr. A, p. 70:24-71:7.]

21. Although identifying the common hepatic/bile duct is relevant in locating landmarks when dissecting the Triangle of Calot, the CVS does not require the surgeon to expose the duct. [See *supra* ¶ 18.] Thus, in order to identify the common hepatic duct “side” of the Triangle of Calot, a surgeon must infer its location based on its protruding outline underneath the layer of peritoneum. [Tr. B, pp. 26:18-19; 27:13-28:1; 92:13-16.]

22. **Second**, the surgeon dissects the lower 1/3 of the gallbladder from the liver bed.¹ [Tr. A, p. 71:8-10.] This step permits the surgeon to apply traction (*i.e.*, a tugging tension) to the gallbladder and connecting structures, which in turn permits him visualize the organ from different planes. [Tr. A, p. 70:11-17, 71:18 (“You can visualize the structures and rotate the gallbladder.”); Tr. B, p. 184:20-21.]

¹ Plaintiff’s expert was equivocal regarding the ratio of the gallbladder that a surgeon must dissect off the gallbladder plate. While Dr. Simon testified it is “recommended about a third of the gallbladder” be dissected, [Tr. A, p. 71:9-10], he admitted that, while he “usually take[s] it down fifty percent,” [Tr. A, p. 81:1], the dissection needs only be to the extent it “gives you the view,” [Tr. A, p. 81:2-3].

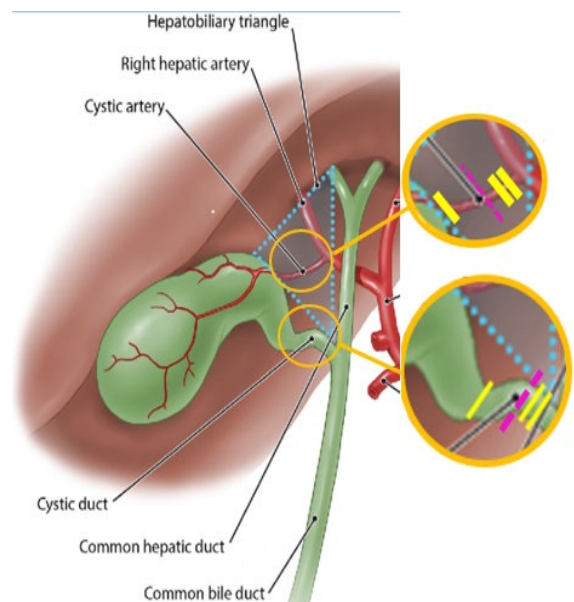
23. **Third**, the surgeon identifies the two and only two structures appearing to enter the gallbladder. [Tr. A, pp. 71:22-72:2 (“Until you get that view, you don’t cut or clip anything”).] The two and only two structures appearing to enter the gallbladder are presumed to be the cystic duct and cystic artery. [see *supra* ¶ 8.]

24. Once satisfied that the surgeon sees two and only two structures entering the gallbladder, he has then achieved the CVS and can reasonably conclude that he has identified the cystic duct and cystic artery. [Tr. A, pp. 50:13-19, 71:25-72:2.]

25. The infundibular technique is similar to the CVS technique, though the former does not require a surgeon to dissect the lower 1/3 of the gallbladder from the liver plate prior to clipping and transecting the cystic duct and cystic artery. [Tr. A, pp. 106:22-107:6; 109:6-11.]

- c. A surgeon clips and transects the two structures he sees connected to the gallbladder, which should be the cystic duct and cystic artery

26. Once the surgeon sees the two structures appearing to enter the gallbladder after completing dissection, he places one clip laterally on the ductal structure proximal to the gallbladder and two clips on the ductal structure distal to the gallbladder. [D.E. 1-6, p. 2; Tr. A, p. 53:12-20; Tr. B, pp. 8:25-9:3.] The



solid yellow lines in the diagram to the right visualizes the approximate location where a surgeon would place these clips. [*Id.*]

27. The surgeon then transects the ductal and arterial structures between the proximal and distal clips. [D.E. 1-6, p. 2; Tr. A, p. 82:4-6; Tr. B, p. 9:3.] The pink dashes in the diagram above visualize the relative location of the transection.

28. The arterial structure is thereafter divided in a similar fashion. [*Id.*]

29. After clipping and transecting the structures, the surgeon then continues dissecting (separating) the remainder of the gallbladder from the liver plate. [Tr. A, p. 82:4-5.]

30. Having disconnected the gallbladder from the biliary tree through transection, and after fully separating the gallbladder from the liver plate, the surgeon then removes the gallbladder through one of the ports. [*Id.*]

3. Bile Duct Complications and the “Classic” Injury

31. Bile duct injuries are more prevalent during a Lap Chole than a traditional open cholecystectomy. [Tr. A, p. 115:9-14.] Despite the fact that approximately 800,000 cholecystectomies are performed each year in the United States, [*id.* at p. 115:20-22], there is no “foolproof” way to reduce to zero the incidence of bile duct injuries, [*id.* at p. 117:3-4].

32. As a result, approximately 3,200 to 4,800 iatrogenic bile duct injuries during a Lap Chole occur in the United States per year. [Tr. A, p. 115:15-116:16.]

33. The “classic” injury to the bile duct occurs when the surgeon misidentifies the common bile duct as the cystic duct, leading him to clip and transect the common bile duct. [Tr. B, p. 91:4-7.] This “classic” injury occurs because, while applying lateral traction to the gallbladder, the common bile duct, which in normal anatomy is connected to the cystic duct, bows and is pulled into the Triangle of Calot. [Tr. B, pp. 91:11-18; 92:24-93:5.] As the cystic duct and common bile duct are straightened due to the applied lateral traction, [Tr. A, p. 190:15-20], the two structures can appear to be a single duct, leading the surgeon to place clips on and cut the common bile duct. [Tr. B, p. 91:11-18, 92:24-93:5.]. The surgeon then locates, clips, and transects the cystic artery.

34. Satisfied he has identified, clipped, and transected the correct two structures, the surgeon continues to dissect the gallbladder away from the liver bed, during which he comes upon an additional, unexpected structure still connected to the gallbladder. [Tr. B, p. 93:6-10.] Still believing that he had correctly identified and transected the cystic duct, the surgeon may conclude that this unexpected structure is an accessory cystic duct, one not encountered in classic anatomy. [*Id.* at p. 93:7-8.] In reality, and because the surgeon had actually clipped and transected the common bile duct – and not the cystic duct – this unexpected structure is actually the common hepatic duct leading to the liver, and still attached (indirectly through the cystic duct) to the gallbladder. [Tr. B. 93:6-10.]

35. Dr. Simon, Plaintiff's expert, concedes that bile duct injuries during Lap Choles are "usually not due to negligence." [Tr. A, p 116:20-22; D.E. 1-5, p. 2.]

36. Because bile duct injuries occur even when a surgeon uses the infundibular or CVS technique, the occurrence of an injury does not mean the surgeon did not utilize the CVS or infundibular technique. [See Tr. A, pp. 116:17-19, 116:23-25.]

B. Facts of Ms. Greene's Case

1. Ms. Greene's background

37. Ms. Greene is 56 years old. [Tr. A, p. 127:8-9.]

38. Ms. Greene served eight years in the military, during which time she sustained significant non-combat injuries as the result of a motor vehicle accident. [Tr. A, pp. 128:7-11, 129:14-18, 150:1-153:4.]

39. These injuries, as well as degenerative conditions, were considered permanent and caused Ms. Greene significant, chronic pain, which she managed with narcotics and pain injections. [Tr. A, p. 155:6-9.]

40. Her first and only job following her military service was with the Pennsylvania Department of Corrections, which she began 10 years after her discharge. [Tr. A, p. 128:1-6, 128:12-22.]

41. She medically retired from the Pennsylvania Department of Corrections on July 6, 2015. [Tr. A, pp. 128:25-129:5.]

42. Ms. Greene has no recollection of her Lap Chole or the care she received during her hospitalization. [Tr. A, p. 158:11-18.]

2. Ms. Greene presents to Dr. Pan and chooses to have her gallbladder removed

43. Ms. Greene began experiencing intermittent abdominal pain around August 2015, which she had unsuccessfully attempted to treat with apple cider vinegar. [Tr. A, pp. 130:3-13; 155:17-24.]

44. Ms. Greene first presented to Dr. Pan for a surgical consult in January of 2016. [Tr. A, p. 25:7-12.] A prior ultrasound had confirmed the presence of gallstones. [Tr. A, p. 194:11-12.] After discussing options, Dr. Pan conservatively recommended against surgery due to the nature of her symptoms. [Tr. A, p. 194:12-18.]

45. Following an emergency department presentation for significant pain and vomiting, during which the attending physician suggested that Ms. Green have her gallbladder removed, [Tr. A, p. 130:16-17], Ms. Greene presented again to Dr. Pan in July of 2016. [Tr. A, p 194:19-24; D.E. 1-4.]

46. During the July 2016 surgical consultation, Dr. Pan verbally explained the risks and benefits of a Lap Chole. [Tr. A, p. 195:9-11; D.E. 1-4.]

47. Ms. Greene understood and still wished to proceed with a Lap Chole, which Dr. Pan scheduled for August 9, 2016. [D.E. 1-4, 1-5; Tr. A, pp. 48:24-49:16.]

48. Dr. Pan again discussed the risks, benefits, and known complications of a Lap Chole with Ms. Greene on the morning of the procedure, including “injury to bile

ducts [and] injury to blood vessels.” [Tr. A, pp. 48:24-49:16, 49:25-50:4, 52:9-11, 157:12-158:6; 196:7-22.] Ms. Greene affirmed the Lap Chole and its benefits and risks had been explained and all her questions had been answered and, thereafter, signed an informed consent form memorializing her decision to proceed with the surgery despite being warned of the following known risks and complications:

- a. Injury to the common bile duct;
- b. Leakage of bile from the bile ducts or liver;
- c. Need for the surgeon to convert from laparoscopic to “open”;
- d. Further surgery on bile ducts;
- e. Hernia formation;
- f. Significant blood loss; and
- g. Less than complete recovery of normal functions or pain relief.²

[D.E. 1-5, p. 2; Tr. A, p. 156:18-24.]

49. Plaintiff’s expert has never criticized of the manner in which Dr. Pan advised Ms. Greene of the known risks of a lap chole, [Tr. A, p. 105:10-12], or suggested the injuries Ms. Greene experienced were not encompassed within the known risks Dr. Pan informed her of before the procedure.

²It is not, and has never been, the defense’s position that Ms. Greene’s signing the informed consent form, in and of itself, means it was “okay for Dr. Pan to completely misidentify the duct and clip and transect the common hepatic artery,” as Plaintiff’s counsel represented in his opening statement. [Tr. A, p. 9:12-18.] To the contrary, the informed consent form’s memorialization of the known risks of Lap Chole demonstrates the widely accepted fact that, due to the nature of this procedure and the variations in anatomy, bile duct injuries are a known risk, even in the absence of negligence.

3. Dr. Pan and Dr. Ryan perform Ms. Greene's Lap Chole

50. Because a Lap Chole requires four instruments (two graspers, one camera, and one dissector), each operated by one hand, the procedure requires two active participants in the surgery. [See *supra* ¶¶ 13-14.] Typical practice, inside and outside of the VA, is to have a resident or a scrub nurse assist the lead surgeon. [Tr. A, p. 186:25-187:3; see also Tr. A, p. 197:1-5; Tr. B, p. 59:15-21.] On August 9, 2016, however, there were no residents available to assist Dr. Pan. [*Id.*] This led to Dr. Gayle Ryan assisting Dr. Pan. [*Id.*]

- a. Dr. Pan and Dr. Ryan are highly qualified surgeons who both perform Lap Choles using the CVS technique

51. Dr. Pan is a highly qualified surgeon. Dr. Pan came to the United States, [Tr. A, p. 182:9-10], after graduating from one of the most prestigious medical schools in China, [*id.* at p. 182:1-4], quickly learned English, [*id.* at p. 182:15-21], was awarded a full ride scholarship to a PhD program at the University of Florida, [*id.* at p. 183:1-10], and completed a post-doctoral fellowship at Harvard Medical School and Massachusetts General Hospital, [*id.* at p. 183:12-15]. He completed a general surgery residency at the University of Texas, [*id.* at p. 183:16-18], during which he was involved in over 1,000 surgical procedures, [*id.* at p. 183:19-22], including at least 100 lap choles and 20 open cholecystectomies, [*id.* at p. 183:23-25.]

52. Dr. Pan became a general surgeon with the VA in July 2000. [Tr. A, p. 184:6-7.] In addition to his clinical work, he was a surgical professor with Hershey

Medical Center between 2000 and 2011 and again between 2013 and 2019. [*Id.* at pp. 184:13-185:4.] Dr. Pan is licensed to practice medicine in Pennsylvania, [D.E. 21, p. 2], became certified in general surgery by the American Board of Surgery (“ABS”) in 2002, and was recertified by the ABS in 2010 and 2020,³ [*id.*; *see also* Tr. A, p. 185:8-25.]

53. Dr. Ryan also is a highly qualified general surgeon. She graduated medical school from Boston University School of Medicine in 1997, [Tr. B, p. 52:11-15], and completed an internship and general surgery residency at Walter Reed Army Medical Center, [*id.* at pp. 52:20-53:5].

54. Dr. Ryan is licensed to practice medicine in Pennsylvania, [Tr. B, p. 53:15-16], has been certified by the ABS since 2004, [*id.* at p. 53:17-21], and is a fellow of the American College of Surgeons, [*id.* at p. 53:23].

55. Before becoming a staff general surgeon at the Lebanon VA in 2007, Dr. Ryan was the Chief of Advanced Laparoscopy and Bariatric Surgery at Dewitt Family Community Army Hospital. [Tr. B, p. 54:1-5.]

56. While employed at the Lebanon VA, Dr. Ryan sat on the peer review committee, surgical case committee, and credentialing committee, all of which evaluate the competencies and qualifications of physicians. [Tr. B, pp. 54:19-55:4.]

³ A physician needs to know how to properly perform a lap chole for board certification. [Tr. A, pp. 187:24-188:1.]

57. Dr. Ryan has performed approximately 400 lap choles during her career.
[Tr. B, pp. 55:23-56:1.]

58. Both Dr. Ryan and Dr. Pan testified to their familiarity with, and regular use of, the CVS technique. [Tr. A, p. 190:15-191:19, 192:16-22 (Pan); Tr. B, pp. 56:2-57:12 (Ryan).]

59. Dr. Ryan had assisted Dr. Pan during prior Lap Choles and confirmed that she regularly witnesses Dr. Pan use the CVS technique. [Tr. A, p. 60:18-24.]

60. Dr. Ryan and Dr. Pan remain in constant verbal communication when they perform a Lap Chole together, describing their observations, discussing the process, and “confirm[ing] what structures that [they]’re seeing and where [they]’re dissecting.”
[Tr. A, p. 60:12-17.]

b. Facts of the August 9, 2016 Lap Chole

61. Ms. Greene presented for surgery in the morning of August 9, 2016. She arrived in the operating room and began receiving anesthesia at 8:03 am. [D.E. 1-6, pp. 4, 6.]

62. Dr. Pan and Dr. Ryan commenced the operation at 8:21 am. [D.E. 1-6, p. 4.]

63. Dr. Pan accessed the abdomen through four ports and identified and retracted the gallbladder. [Tr. B, p. 61:3-18.]

i. Dr. Pan obtained the CVS visualized only two structures connecting to the gallbladder

64. Dr. Pan dissected the fat and fibrous tissue from the Triangle of Calot, [Tr. A, pp. 50:15-16; Tr. B., p. 7:4-13, 8:6-9, 61:18-20], complying with the first step of the CVS and infundibular techniques, [*see supra* ¶¶ 19, 25].

65. As a result of this dissection, Dr. Pan and Dr. Ryan saw a duct and blood vessel going “directly into the gallbladder.” [Tr. B, pp. 7:18-21, 8:3-11 (Pan); Tr. B, pp. 61:21-22, 73:11 (Ryan).]

66. Dr. Pan then “dissected the lower third of the gallbladder off the gallbladder fascia, which is the liver bed,” [Tr. B, p. 61:22-24; *see also* Tr. B, pp. 9:8-12, 66:23-25], complying with the second step of the CVS, [*see supra* ¶¶ 22].

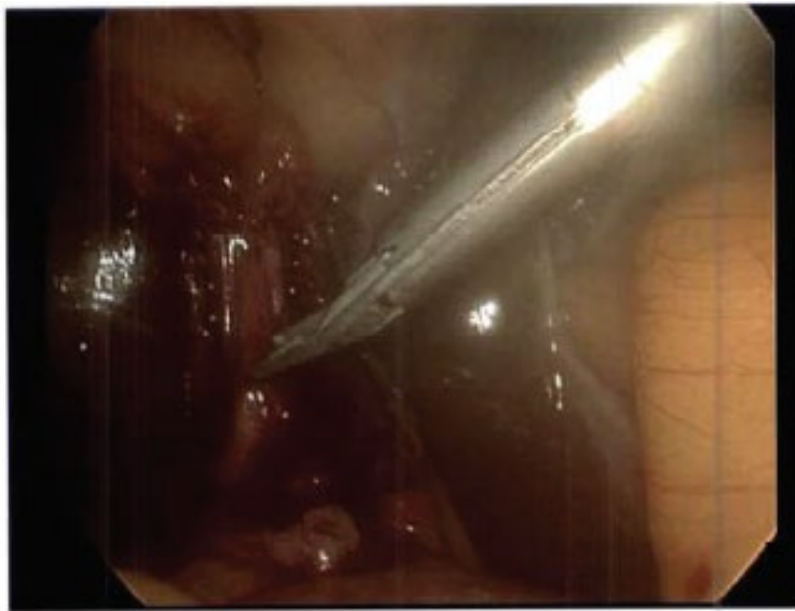
67. After viewing the gallbladder and attached structures on different planes, Dr. Pan and Dr. Ryan then “confirmed with each other” that they saw two and only two structures “[g]oing into the gallbladder neck,” [Tr. B, pp. 61:24-25 (Ryan); *see also* Tr. B, p. 8:9-11, 15-19 (Pan), 63:19-21, 71:24-72:3 (Ryan);], complying with the third step of the CVS, [*see supra* ¶¶ 23, 25].

68. At that point, and before clipping or cutting any structures, Dr. Pan obtained, and Dr. Ryan confirmed achievement of, the CVS. [Tr. A, p. 199:18-23 (Pan); Tr. B, p. 63:10-18 (Ryan).]

69. Seeing two and only two structures entering the gallbladder at the appropriate location after achieving the CVS, Dr. Pan and Dr. Ryan, therefore, believed

they had successfully identified the cystic duct and cystic artery, [Tr. B, p. 40:9-11], and they expressed their consensus before clipping or transecting any structure. [Tr. B, p. 65:24-66:8.]

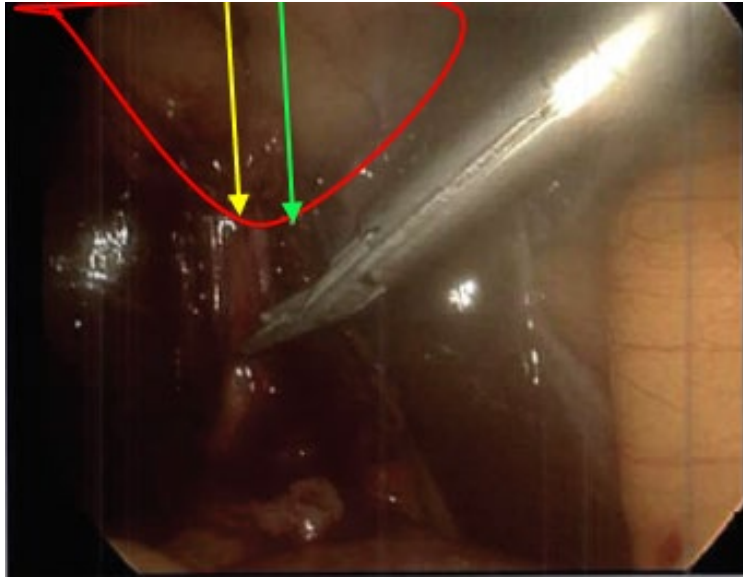
70. As some, but not all, surgeons do, [Tr. A, pp. 72:11-13; 114:25-115:8, 193:18-194:3; Tr. B, p. 58:10-14], Dr. Pan memorialized his dissection and the only two structures entering the gallbladder by taking the following intraoperative photograph before clipping or transecting any structure:



[D.E. 1-7; Tr. A, pp. 193:23-194:3; Tr. B, p. 6:12-16 (Pan), 64:6-11 (Ryan).]

71. The intraoperative photograph captured a two-dimensional “moment in time,” [Tr. B, p. 193:7], during which Dr. Pan was not doing any dissection and before any structure was clipped or cut, [Tr. B, pp. 190:7, 191:4-6, 192:19-193:7.]

72. At trial, Dr. Pan and Dr. Ryan each unequivocally identified gallbladder, outlined by the curved line, below, and the duct and artery entering the gallbladder, indicated by the left and right arrows, respectively:



[See Tr. B, pp. 6:19-7:13 (Pan), 64:6-24 (Ryan).]

73. Dr. Pan and Dr. Ryan both testified they believed the duct identified by the left arrow to be the cystic duct because it was the only duct appearing to enter the gallbladder after they had achieved the CVS and before clipping or transecting any structure. [Tr. B, pp. 8:3-11, 9:8-12, 63:22-25, 64:20-65:19; *see also* Tr. B, p. 9:6-7, 70:14-20 (explaining metal object in photograph is clip applier, before any clips were applied).]

74. At trial, the Court viewed a teaching video of an exemplar Lap Chole procedure. [P-17.] Much of that video depicted the methodical dissection away of the peritoneum and fatty, fibrous tissue that surrounds and obscures these structures. [See

generally id.] In that video, the Court was able to see two structures appearing to connect to the gallbladder. This was visible only after the surgeon completed dissection.

75. Although the quality of the intraoperative photograph is suboptimal, [Tr. B, p. 99:20-24 (Iannarone), 170:22-23 (Simon)], the Court finds the photograph demonstrates the absence of fatty, fibrous tissue around the relevant structures, [D.E. 1-7; Tr. B, pp. 8:15-19 (Pan), 64:25-65:3 (Ryan), 100:24-101:2 (Iannarone), 191:18-19 (Iannarone)] – reflecting an appropriate dissection – and depicts the visualization of only two structures entering the gallbladder, one of which is a duct, [D.E. 1-7; Tr. B, pp. 7:18-25 (Pan), 8:9-11 (Pan), 64:6-24 (Ryan), 71:24-72:3 (Ryan), 100:12-25 (Iannarone), 191:6-7 (Iannarone)]. While he disputed whether the structure identified by the left arrow was actually the common bile duct, Dr. Simon did not dispute that it appears to enter the gallbladder. [Tr. B, pp. 181:14-15 (“I disagree what they’re saying this structure is *that goes into the gallbladder*”) (emphasis added); *id.* at p. 181:25-182:3.]

ii. Dr. Pan clipped and transected the only two structures that he and Dr. Ryan saw connecting to the gallbladder

76. Immediately after taking the intraoperative photograph, Dr. Pan placed three clips on the structure he had identified as the cystic duct, two distal and one just next to the neck of the gallbladder. [D.E. 1-6 at p. 1 (“three clips were placed, two in

the distal part, one into [sic] the gallbladder neck”); Tr. A, pp. 58:19-59:4 (Pan); Tr. B, pp. 65:24-65:8 (Ryan).]

77. He then transected the only duct connected to the gallbladder, which both he and Dr. Ryan had identified as the cystic duct. [Tr. B, pp. 7:22-8:2 (Pan), 66:11-17 (Ryan); *see also* D.E. 1-6.].

78. Because he felt one clip was loose, Dr. Pan also placed a vessel loop. [D.E. 1-6 (“Clip was a bit loose. A vessel loop was then placed a clipped cystic ruminant [sic]”); Tr. A, p. 59:11-14 (Pan); Tr. B, p. 95:7-9 (Iannarone).]

79. Both Dr. Pan and Dr. Ryan identified the duct depicted in the intraoperative photograph to be the duct that Dr. Pan clipped and transected. [Tr. B, pp. 7:22-8:2 (Pan), 66:11-17 (Ryan).] No evidence was offered to the contrary.

80. On the structure that he identified as the cystic artery, Dr. Pan placed three clips and transected between them. [D.E. 1-6; Tr. A, p. 53:5-11.]

81. At the time Dr. Pan transected the only duct and artery entering the gallbladder, neither he nor Dr. Ryan had any “doubt in [their] mind[s] [that the transected structures] were [the] cystic duct and cystic artery.” [Tr. A, p. 44:4-6 (Pan); Tr. B, p. 65:17-19 (Ryan).]

82. “[T]here was no bleeding [immediately] after [Dr. Pan] transected the cystic artery.” [Tr. B, pp. 12:6-7 (Pan), 62:4-5 (Ryan), 146:7-14 (Iannarone).]

83. It is undisputed that there was no evidence of abnormal biliary anatomy at the time Dr. Pan clipped and transected the only structures connected to the

gallbladder. [Tr. A, pp. 31:6-11 (Pan), 41:17-19 (Pan), 50:20-23 (Pan); 15:6-7 (Pan); *see also* Tr. B, p. 66:18-20 (Ryan); *see also* D.E. 1-6.]

84. Indeed, Plaintiff's expert expressly conceded he did not criticize Dr. Pan for not suspecting variant anatomy before clipping and transecting the only structures connecting the gallbladder.⁴ [See Tr. A, p. 105:13-15.]

85. The Court finds that, prior to clipping and transecting the only duct entering the gallbladder, there was no evidence to suggest Ms. Greene had anything other than classic biliary anatomy. [See *supra* ¶¶ 83, 84.]

86. Based on Dr. Pan's and Dr. Ryan's uncontradicted testimony that Dr. Pan transected the only structures appearing to enter the gallbladder after obtaining the CVS, the Court finds that Dr. Pan clipped and transected the only duct that appeared to connect to the gallbladder, which he reasonably believed to be the cystic duct. [See *supra* ¶¶ 64-81.]

iii. Dr. Pan converted to open after and because he detected a bleed from the upper 2/3 of the gallbladder

87. Having already dissected the lower 1/3 of the gallbladder before clipping and cutting the two structures seen entering the gallbladder, [see *supra* ¶ 66], Dr. Pan

⁴ As explained below, Dr. Pan performed a cholangiogram, which is a radiologic test designed to evaluate abnormal biliary anatomy, *after* he clipped and transected the duct. [See *supra* ¶ 749, *infra* ¶ 102.] Dr. Simon has never criticized Dr. Pan for not obtaining a cholangiogram earlier in the procedure, [Tr. A, p. 105:13-15], such as before clipping and transecting the duct.

proceeded to complete the dissection of the upper 2/3 of the gallbladder from the liver plate, [D.E. 1-6 (“Attention was then made to dissected gallbladder...” (emphasis supplied)); Tr. B, pp. 9:8-12 (Pan), 62:2-7 (Ryan), 66:21-25 (Ryan); *see also* Tr. B, p. 63:22-25 (confirming the lower portion of the gallbladder had already been removed from the liver bed before the CVS was obtained and the intraoperative photograph taken)].

88. During that dissection, Dr. Pan encountered “mild adhesion of the gallbladder to the liver bed consistent with old scar tissue,” [D.E. 1-6, p. 2; Tr. B, p. 11:2-5], reflecting “chronic inflammation with chronic inflamed attachment of the gallbladder to the liver,” [Tr. B, p. 107:13-19], resulting in “[t]he gallbladder being adhered to the liver bed more than normal,” [Tr. B, p. 11:6-9].

89. During that dissection, Dr. Pan identified a “small branch vessel bleeding from the liver bed,” [D.E. 1-6, p. 2], which had been obscured before transection between the still-attached section of the gallbladder and liver bed, *i.e.*, the upper 2/3 of the gallbladder, [Tr. B, p. 11:13-22.]

90. Small branch vessels, such as the one detected by Dr. Pan during the Lap Chole, are common. [Tr. B, p. 11:23-25 (Pan), 122:15-17 (Iannarone).]

91. Plaintiff has never criticized Dr. Pan in relation to this bleed from the branch vessel or suggested the bleed was due to negligence. [*See generally* Tr. A, pp. 62:1-96:17; Tr. B, pp. 164:21-177:13.]

92. Dr. Pan unsuccessfully attempted to control the bleeding laparoscopically. [D.E. 1-6, p. 2; Tr. B, pp. 12:12-16 (Pan), 62:4-7 (Ryan).]

93. After converting to open, Dr. Pan identified the small bleeding vessel and tied it off with two 5-0 Prolene sutures, which effectively stopped the bleeding. [D.E. 1-6, p. 2; Tr. B, p. 12:21-25.]

94. It is undisputed that Dr. Pan converted the Lap Chole to open because the bleed from the small branch vessel could not be controlled laparoscopically. [Tr. A, p. 40:17-19 (Pan), Tr. B, pp. 12:17-23, 62:4-7 (Ryan), 75:22-23 (Ryan), 121:24-122:6 (Iannarone); *see also* D.E. 1-6, p. 2.]

95. Plaintiff does not criticize Dr. Pan for converting the procedure to open once he detected the bleeding. [Tr. A, p. 105:16-18.]

96. The Court therefore finds the conversion from laparoscopic to open was caused by Dr. Pan's need to control the bleed from the small branch vessel during dissection of the gallbladder and is unrelated to his clipping and transecting any ductal or arterial structure. [Tr. B, p. 122:2-6; *see also supra* ¶ 94.]

97. The Court therefore finds the bleed was the cause of Ms. Greene undergoing an open abdominal incision. [*See supra* ¶¶ 94-95.]

iv. Dr. Pan encountered the first evidence an anatomical variation after he already had converted to open

98. Once he controlled the bleeding, [*see supra* ¶ 93], Dr. Pan returned to the dissection of the gallbladder, but this time “dome down from the liver edge,” which

was the opposite direction of his earlier partial dissection and from the most proximal portion of the gallbladder that was still adhered to the liver bed, [Tr. B, pp. 13:1-6 (Pan), 62:8-16 (Ryan)]. He dissected in this manner in the hopes of avoiding further bleeding. [Tr. B, p. 62:11-12 (Ryan).]

99. During that dissection, Dr. Pan and Dr. Ryan discovered an unexpected tubular structure “coming from the gallbladder fascia, or the liver bed, directly into the gallbladder.” [Tr. B, p. 67:8-9; *see also* Tr. B, pp. 13:9-12 (Pan), 62:12-16 (Ryan), 78:18-20 (Ryan); *see also* D.E. 1-6, p. 2-3 (“The tubular structure is from liver bed directly into gallbladder”).]

100. Up to that point, there was no evidence to suggest that Ms. Greene had any anatomical variation. [*See supra* ¶¶ 83-85.] Because a surgeon would not expect to uncover this additional ductal structure in a patient with classic anatomy, Dr. Pan and Dr. Ryan suspected that it was either an accessory cystic duct, which would be considered an anatomical variation, or the common hepatic duct still attached to the gallbladder, which would reflect another anatomical variation, as the common hepatic duct does not normally enter the gallbladder directly.⁵ [Tr. B, 14:17-18; *see also supra* ¶¶ 3-4.]

⁵ Neither Dr. Pan nor Dr. Ryan believed this unexpected ductal structure could be the cystic duct, [*see* Tr. B, p. 67:10-11 (Ryan); *see also* Tr. A, p. 32:7-33:24.] As explained below, the suspected accessory duct was in fact ***not the cystic duct***, but rather the common hepatic duct. [*See infra* ¶ 127.] In any event, Plaintiff’s theory that this tubular structure connecting the gallbladder to the liver bed was the cystic duct, [Tr. A, p. 84:20], is fundamentally irreconcilable with Dr. Simon’s testimony that Ms. Greene

101. Because they had used the CVS technique to reveal Ms. Greene’s biliary anatomy and clipped and cut the only ductal structure entering the gallbladder’s neck – and with no basis yet to suspect that Ms. Greene had a short/absent or parallel cystic duct variation – both Dr. Pan and Dr. Ryan suspected the tubular structure was an accessory duct. [Tr. A, pp. 32:14-33:16 (Pan); Tr. B, pp. 48:1-16 (Pan), 62:17-18 (Ryan), 79:13-17 (Ryan).]

v. Dr. Pan investigated the anatomical anatomy and followed a liver specialist’s advice to ligate the structure.

102. Dr. Pan therefore ordered an intraoperative cholangiogram, which is a radiological test used to investigate anatomical ambiguities, in an effort to verify Ms. Greene’s biliary anatomy. [Tr. A, p. 43:1-6 (Pan); Tr. B, pp. 14:19-15:3 (Pan), 48:12-14 (Pan), 62:18-22 (Ryan); *see also* D.E. 1-6 at p. 3.]

103. The cholangiogram performed on Ms. Greene was inconclusive. [D.E. 1-6 at p. 3 (“The results were not satisfactory”); Tr. B, pp. 15:10-14 (Pan), 62:23-63:3 (Ryan); 196:18-197:6 (Iannarone).]

104. Plaintiff does not criticize Dr. Pan for not performing the cholangiogram before he converted the procedure to open. [Tr. A, p. 105:13-15.]

had normal biliary anatomy, [*see infra* ¶¶ 165-68], because it is undisputed that the cystic duct does not connect to the liver bed. [Tr. A, p. 178:13-16; D.E. 43.]

105. Because of this tubular structure connecting the gallbladder directly to the liver, “there was no way that [Ms. Greene’s] gallbladder was coming out until the particular structure had been transected.” [Tr. B, p. 78:11-20.]

106. Dr. Pan intraoperatively consulted Dr. Jain of the liver specialty team at Hershey Medical Center (“HMC”). [Tr. B, p. 15:15-20; D.E 1-6, p. 3.]

107. Dr. Jain recommended ligation – *i.e.*, the tying off – of, and the placement of a drainage tube on, the tubular structure. [D.E. 1-6, p. 3; Tr. A, p. 56:20-22 (Pan), Tr. B, p. 15:21-16:1 (Pan), 16:8-10 (Ryan), 77:13-10 (Ryan).] Dr. Jain further recommended that Dr. Pan transfer Ms. Greene to HMC for further testing and observation. [Tr. B, pp. 15:24-16:1 (Pan); *see also* D.E. 1-6; D.E. 1-9.]

108. Following Dr. Jain’s advice, Dr. Pan ligated the tubular structure with a silk tie and placed a drain. [D.E. 1-6, p. 3 (“Dr. Jain recommended ligation of the free tubular structure fre [sic] end and placement of JP” drain); Tr. 16:8-16 (Pan), 78:2-10 (Ryan).]

109. Plaintiff does not criticize Dr. Pan following Dr. Jain’s advice to ligate the tubular structure. [Tr. A, p. 106:1-3.]

110. It is undisputed that Dr. Pain did *not* place clips on the tubular structure ligated at Dr. Jain’s direction. [Tr. B, pp. 16:8-21 (Pan), 96:5-11 (Iannarone); *see also* D.E. 1-6, p. 3.]

111. Dr. Pan removed the gallbladder, along with any portion of the duct attached thereto, from Ms. Greene’s abdomen. [See Tr. B, pp. 49:1-12 (Pan), 78:9-10 (Ryan), 111:17-21 (Iannarone); *see also* D.E. 1-6, p. 5.]

vi. Dr. Pan promptly memorialized his belief that Ms. Greene had an anatomical variation and possible bile duct injury

112. Dr. Pan closed the abdomen, and the procedure concluded at 10:46 am. [D.E. 1-6, pp. 3-4.]

113. Ms. Greene left the operating room at 10:55 am, and Dr. Pan prepared her for transfer to HMC. [D.E. 1-6, p. 4.]

114. Transferring a patient from the VA to a tertiary facility requires the completion of several documents.⁶ [See Tr. B, p. 17:14-16.]

115. Despite the haste with which he completed the requisite documents, and without the benefit of hindsight, Dr. Pan promptly documented his impression that Ms. Green had variable biliary anatomy, potentially in the form of an accessory cystic duct, and a possible biliary duct injury. [See, e.g., D.E. 1-6, p. 1 (“Possible accessory duct from liver bed to gallbladder”); D.E. 1-9, p. 1 (“Abnormal biliary structure”); D.E. 1-

⁶ Plaintiff misinterpreted, and during trial, inaccurately described the timeline of the documents that Dr. Pan had completed following Ms. Greene’s surgery. [See, e.g., Tr. A, p. 29:4-5.] Specifically, while Plaintiff relied on the “Entry Time” stamped at the top of each document, which is the time Dr. Pan opened the document, [Tr. A, p. 34:22-35:11], the signature blocks contain timestamps as to when the entries were completed. [See, e.g., D.E. 1-12, p. 1 (reflecting Entry Date of 10:48:32, but signed timestamp of 11:09).] Therefore, and by way of example only, Dr. Pan’s Operative Report, [D.E. 1-6; P-4], was completed at 11:19 am and was not the first medical record entry he created, [see *infra* ¶ 116].

10, p. 1 (“Possible accesary [*sic.*] cystic duct”); D.E. 1-11, p. 11 (“Possible accesary [*sic.*] cyst [*sic.*] duct.”).]

116. First, Dr. Pan completed a consult request form at 11:08 am, wherein he memorialized his discussion with Dr. Jain and noted:

Chief Complaint: Abnormal biliary structure. Post cholecystectomy. Needs liver surgery service for further evaluation. Dr. Jain from Hreshey Medical center has accepted the transfer

[D.E. 1-9; Tr. B, p. 17:25-20:4.⁷] Thus, the first postoperative document Dr. Pan authored expressed Ms. Greene had abnormal biliary anatomy.

117. Second, Dr. Pan completed his Operation Report (“Report”) at 11:19 a.m. [D.E. 1-6.] This Report memorialized Dr. Pan’s initial belief, based on information known before he began to clip and transect any structures, that the “cystic duct and cystic artery were in the normal anatomic position.” [*Id.* at p. 2] The Report also documented that Dr. Pan subsequently uncovered an unexpected “tubular structure” that he believed was “consistent with an accessory cystic duct.” [D.E. 1-6, p. 3; Tr. B., p. 17:6-13; *see also* Tr. A, p. 28:22-29:3.] In that Report, Dr. Pan explained he had transferred Ms. Greene for “evaluation to ensure no important injury had occurred.” [D.E. 1-6, p. 3.]

⁷ The defense notes that the transcript has typographical errors, inasmuch as “abnormal” is occasionally transcribed as “normal.” Clearly, as the testimony was quoting the Exhibit, the defense is confident the Court will accurately recall the testimony

118. Third, at 11:33 a.m., Dr. Pan completed an inter-facility transfer note, wherein he documented his suspicion Ms. Greene had variant anatomy in the form of an accessory duct, but that he needed to rule out an intraoperative biliary ductal injury:

```
1.  DIAGNOSIS: Cholecystectomy. Possible accesay cystic duct

4.  DESCRIPTION OF FURTHER SERVICES NEEDED: Observation. To ensure no
intraoperative biliary ductal injury
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[D.E. 1-10, pp. 1-2.]

119. Fourth, at 11:39 a.m., Dr. Pan completed a discharge/interim summary note, in which he again noted that Ms. Greene “has abnormal anatomy” and again documented his suspicion she may have an accessory duct:

```
HISTORY OF PRESENT ILLNESS/BRIEF HOSPITAL SUMMARY:
The patient under went laparoscopic converted to open cholecystectomy.
Intra- operative cholangiogram. The patient has abnormal anatomy.
Possible accesary cyst duct. She will be transferred to Hershey Medical
Center for further observation and evaluation to ensure no
intraoperative injury
```

[D.E. 1-11, p. 1.]

120. Fifth, at 11:40 am, Dr. Pan added an addendum to a post-surgery note – distinct from his Report – explaining his purpose in transferring Ms. Greene as follows: “liver surgery observation and evaluation anatomy to ensure no intraoperative injury.”

[DE 1-12.]

121. The Court finds that Dr. Pan’s Report and accompanying transfer documents collectively described his contemporaneous belief Ms. Greene had variant anatomy based on information then available to him. [*See supra* ¶¶ 116-20.]

4. Medical Care at HMC

122. Ms. Greene was transferred to HMC on August 9, 2016. [See D.E. 1-16, p. 1.]

- a. Testing corroborates that Dr. Pan applied clips to the common bile duct and transected the common hepatic duct and finds her right hepatic artery occluded.

123. On August 10, 2020, Ms. Green underwent a diagnostic ERCP, which revealed “[a] biliary tract obstruction secondary to clips from previous cholecystectomy . . . in the common bile duct.” [P-9; D.E. 1-17; Tr. B, p. 24:6-18.] The ERCP further found “a complete occlusion of CBD in vicinity of surgical clips. No contrast present proximal to this region.” [*Id.*]

124. Ms. Greene also underwent a diagnostic PTCD, which revealed “transection of the common hepatic duct . . . and . . . variant biliary anatomy with insertion of the right posterior duct into the central left duct.” [DE 1-14, p.1.]

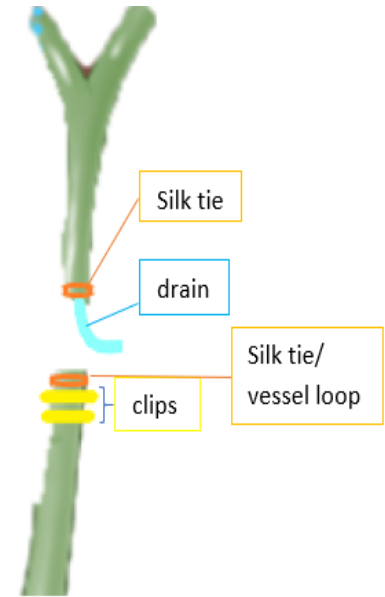
125. Ms. Greene underwent an arteriogram, which revealed complete occlusion of the right hepatic artery. [D.E. 1-14, p. 2.]

- b. Dr. Kadry confirms Dr. Pan clipped and transected the common bile duct, ligated the common hepatic duct, and clipped and transected the cystic artery

126. On August 12, 2016, HMC liver surgeon, Dr. Zakiyah Kadry, performed a Roux-en-Y hepaticojejunostomy to re-establish the ductal connection between her

liver and small bowel. [D.E. 1-14; *see also* Tr. B, 109:6-10.] Dr. Kadry also performed a thrombectomy and anastomosis of Ms. Greene’s right hepatic artery. [D.E. 1-14.]

127. During that procedure, Dr. Kadry observed surgical clips and a stitch on the common bile duct. [DE 1-14, p. 2] (“The lower distal end [*i.e.*, the common bile duct] had several clips and a silk tie as well as a Prolene stitch.”); Tr. B, p. 97:10-98:2.] Dr. Kadry further described that Ms. Greene’s common hepatic duct had no surgical clips, but that it was also tied off and had a drain on it. [DE 1-14, p. 2] (“The proximal hepatic duct [*i.e.*, the common hepatic duct]



appeared to contain the PTC catheter and was also tied.”); Tr. B, pp. 98:3-24.] The accompanying diagram demonstrates the common duct as Dr. Kadry described in her note.

128. Turning to the right hepatic artery, Dr. Kadry observed two clips, the first being “at the base of the cystic artery,” *i.e.*, the portion of the artery remaining in Ms. Greene’s body, and the second spanning across the “point of entry of the cystic artery” to the right hepatic artery.⁸ [D.E. 1-14, p. 2; Tr. A, p. 27:16-21 (Pan); Tr. B, pp. 12:8-11 (Pan), 113:19-21 (Iannarone).]

⁸ Dr. Pan’s operative report describes placing three clips on the cystic artery and transecting the structure “between the clips.” [See D.E. 1-6 at 2.] The third clip – the

129. Dr. Kadry also observed the right hepatic artery was small and narrow. [See D.E. 1-14, p. 2 (“The anastomosis was very difficult due to . . . the small size of the right hepatic artery”); *see also* D.E. 1-26 (“[T]he hepatic artery was noted to be very narrow.”); Tr. B, p. 114:10-13.]

130. Based on her observations, Dr. Kadry suspected the thrombosis had been caused because the small and narrow right hepatic artery had been “tented upwards” before the clip was applied to the cystic artery. [D.E. 1-14, p. 2; Tr. B, 115:17-21.]

5. Ms. Greene recovered from the cholecystectomy and Dr. Kadry’s repair

131. Ms. Greene’s hepaticojejunostomy and anastomosis were successful, and she has, as expected, recovered. [Tr. B, p. 126:10-25.]

132. While Ms. Greene admittedly has no reliable recollection of her postoperative course, [Tr. A, p. 158:14-18], it is undisputed she “did very well postoperatively,” [D.E. 1-27, p. 1], and was discharged directly to home on August 22, 2016, without the need for rehabilitation, [Tr. A, p. 158:22-23].

133. Dr. Kadry continued to evaluate Ms. Greene following her discharge; however, that evaluation consisted of only four routine visits to monitor her liver function. [See *id.* at pp. 159:20-160:5; *see also* D.E. 1-27.]

one on the gallbladder side of the transection, remained attached to the portion of the artery removed along with the gallbladder.

134. At the time of Ms. Greene’s final visit with Dr. Kadry, she reported “that she continue[d] to do extremely well and ha[d] no significant complaints,” [D.E. 1-26, p. 1], “felt great[,] and did not have any significant complaints of abdominal pain,” [*id.* at p. 2].

135. It is undisputed the last time Dr. Kadry evaluated Ms. Greene was in October 2017. [Tr. A, p. 160:6-12; D.E. 1-26.]

136. Ms. Greene has never received treatment from a liver or biliary specialist since being discharged from Dr. Kadry’s care in 2017. [Tr. A, p. 163:14-17.]

137. As demonstrated by her consistently normal laboratory and radiological results, Plaintiff’s liver function has never been compromised. [Tr. A, p. 163:18-23; Tr. B, pp. 127:1-129:5, 129:5-133:8; D.E. 1-21; 1-22; 1-23; 1-24; 1-25.]

138. Plaintiff offered no expert testimony to suggest Ms. Greene’s liver was compromised by the care at issue, [Tr. B, p. 163:8-9], and “[Ms. Greene] is not making any claim of liver damage [because] she’s recovered from that,” [*id.* at p. 133:15-23; *see also id.* at p. 134:5-12].

139. Plaintiff likewise offered no expert evidence to establish any pain Ms. Greene claims to still have is caused by the care at issue; in fact, Plaintiff’s expert testified he could not testify whether Ms. Greene has or will have abdominal pain. [Tr. A, p. 123:3-13 (“I can’t predict whether Ms. Green[e] is one of those [patients who will have chronic abdominal pain] or not, and I’m not here to guess about that either.”)].

140. Although any care Ms. Greene may need related to the biliary injuries at issue was “turned back over to [the] Lebanon [VA],” [*id.* at p. 160:8-9], the Court finds, based on her medical records, Ms. Greene denied any pain whatsoever during encounters with VA medical professionals in 2017, 2018, 2019, and 2020, [D.E. 1-29, pp. 1, 6, 15, 16, 22, 26].

141. Additionally, to the extent Ms. Greene reported pain, the Court finds medical records between 2017 and 2020 document Ms. Greene consistently reporting pain related to orthopedic issues, but not in her abdomen. [*See* D.E. 1-29, pp. 2-5, 7-9, 11-13, 17-21, 23, 25, 27, 30-33, 36; Tr. B, p. 135:12-137:2.] Plaintiff does not claim, and offered no expert evidence to support, that any of Ms. Greene’s preexisting injuries or medical issues were “were aggravated by [the Lap Chole].” [Tr. A, p. 151:24-152:2.]

142. While Plaintiff suggested she takes the “lowest” dose of oxycodone and use a lidocaine patch for “stinging” 6-10/10 alleged abdominal pain, [Tr. A, pp. 165:3-15, 176:10-17], which is not documented in her records, [*see generally* D.E. 1-29], she conceded, consistent with her medical records, that both the lidocaine and the oxycodone help her with her orthopedic issues. [Tr. A, p. 170:19-171:6; *see also, e.g.*, D.E. 1-31 (documenting Ms. Greene is prescribed oxycodone for knee and thigh pain)].

143. Moreover, Dr. Kadry only temporarily prescribed the oxycodone for incisional pain while Ms. Greene’s incision was healing and did not “expect [her] to be on it long term.” [Tr. A, p. 170:2-10; D.E. 1-27, p. 2.]

144. The Court finds Plaintiff has not proven the care at issue caused Ms. Greene to continue to experience abdominal pain, let alone severe abdominal pain, due to lack of expert evidence and the weight of the evidence, including Ms. Greene's medical records and contradictory testimony. [*See supra* ¶¶ 139-43.]

145. The Court likewise finds that Plaintiff has not proven the care at issue caused Ms. Greene to experience any psychological or emotional distress. [*See infra* ¶¶ 146-147].

146. While Ms. Greene testified that she experiences "nightmares" that she will go through this injury again, [Tr. A, 145:13-22], Plaintiff offered no expert support whatsoever that causally links Ms. Greene's alleged nightmares to the care at issue, [Tr. A, p. 62:2-96:17.]

147. Further, it is undisputed Ms. Greene has never been diagnosed with a mental health condition, has never sought psychological counseling, and has unanimously received negative depression and post-traumatic stress disorder screens. [Tr. A, pp. 171:15-172:2.]

148. While Plaintiff testified it "probably took [her] a good year until [she] was able to say okay, I'm past this," [Tr. A, p. 144:9-10], the Court finds Plaintiff has not proven the care at issue caused her a loss of enjoying life's pleasures. To the contrary, shortly after being discharged from HMC, Ms. Greene was able to perform yardwork, ride her motorcycle, drive, exercise on a regular basis, and take extensive trips, got married, and finished college (successfully taking and completing her final courses

within weeks, with high grades). [Tr. A, pp. 172:6-174:9.] She has no food restrictions. [Tr. A, p. 175:11-15.]

C. Plaintiff's Factual Presentation of Ms. Greene's Injury is Incorrect

149. In this case, a critical factual dispute is which ductal structure Dr. Pan had actually clipped and cut thinking it was the cystic duct, and which ductal structure, following his consult with Dr. Jain, he ligated and placed a drain upon thinking it was an accessory duct. The United States contends that Dr. Pan clipped and cut the common *bile* duct thinking it was the cystic duct, and that the suspected accessory duct was actually Ms. Greene's common *hepatic* duct, which structure he ligated and upon which he placed a drain.

150. Plaintiff's theory is that Dr. Pan cut and clipped the common *hepatic* duct – not the common bile duct – believing it to be the cystic duct, and then, after converting the procedure to open, transected the cystic duct believing it to be an accessory duct. [Tr. A, pp. 7:11-13, 8:23-24.]

151. Expectedly, Plaintiff's expert, Dr. Simon, testified consistently with Plaintiff's theory, claiming that “we know in retrospect there was clips across the common hepatic duct,” [Tr. A, p. 68:8-9; *see also* Tr. A, p. 84:18-19], and insisting Dr. Kadry “found clips here . . . Common hepatic duct,” [Tr. A, p. 82:23-25; *see also* Tr. A, p. 91:7-13].

152. Dr. Simon similarly opined that the suspected accessory duct that Dr. Pan observed connecting the gallbladder to the liver bed was actually Ms. Greene's cystic

duct, proclaiming repeatedly: “[t]his ‘accessory duct’ has to be the cystic duct.” [Tr. A, p. 84:20; *see also id.* at p. 85:13-17; Tr. B, pp. 166:7-10; 167:3-9.]

153. Based on these assumptions, Dr. Simon opined Ms. Greene did not have a biliary anatomical variation. [Tr. A, pp. 84:23-24, 96:16-17.]

154. Plaintiff’s theory – and Dr. Simon’s opinion – is objectively wrong.

1. Dr. Pan clipped and cut the common bile duct – not the common hepatic duct – believing it was the cystic duct

155. The Court finds that Dr. Pan clipped and transected Ms. Greene’s common bile duct – not her common hepatic duct – believing it to be the cystic duct. [Tr. B, p. 94:4-7.]

156. It is undisputed, and clearly documented in his Report, that Dr. Pan placed surgical clips and a suture on the structure that he and Dr. Ryan had identified as the cystic duct. [*See supra* ¶ 76.] It is likewise undisputed, and clearly documented in the Report, that Dr. Pan ligated and placed a drain on the suspected accessory duct, ***but placed no clips on that structure.*** [*see supra* ¶¶ 108, 110.] The clips are landmarks, and, by turning to the record to see which structures were clipped versus ligated, this Court can determine with certainty which structure – the common hepatic duct or the common bile duct – Dr. Pan believed was the cystic duct. In a similar vein, the Court can conclusively determine whether the suspected accessory duct was really the cystic duct, as insisted by Plaintiff, or actually the common hepatic duct, as advanced by the defense.

157. While Dr. Simon contends that Dr. Kadry described finding clips on the common hepatic duct, [Tr. A, p. 82:23-25], the opposite is true. Specifically, the only surgical clips Dr. Kadry observed on any duct were on the distal portion, *i.e.*, the common bile duct, which were accompanied by a stitch. [See *supra* ¶ 127 (citing, *e.g.*, DE 1-14, p. 2.)] Again, the only surgical clips Dr. Pan placed on a duct during any portion of the cholecystectomy were on the structure he believed to be the cystic duct. [See *supra* ¶ 76 (citing DE 1-6, p. 2); see also Tr. B, p. 99:13-15.]

158. Dr. Kadry further observed that the proximal portion, *i.e.*, the common hepatic duct, contained a drain and had been ligated, but did not observe any surgical clips. [See *supra* ¶ 127 (citing DE 1-14, p. 2) (“The proximal hepatic duct appeared to contain the PTC catheter and was also tied”).] The only drain Dr. Pan placed in a duct during any portion of the cholecystectomy was on the unexpected structure he believed at the time to be an accessory duct. [See *supra* ¶ 108.]

159. Together, this proves that the structure that Dr. Pan clipped and cut thinking it was the cystic duct was really the common *bile* duct, not the common *hepatic* duct.

2. That Dr. Pan clipped and cut the common bile duct rather than the common hepatic duct is relevant to the reasonableness of his conduct

160. After having the benefit of hearing all the evidence presented by the defense, Dr. Simon all but conceded that his understanding of Dr. Kadry’s observations

was incorrect during his rebuttal testimony, but, in an attempt to sidestep the issue, testified he believed the distinction “doesn’t matter.” [Tr. B, p. 164:21-25.]

161. Dr. Simon is wrong again, as this distinction is material to reasonableness of Dr. Pan’s actions.

162. As demonstrated through the exemplar video, [P-17], photographs offered by Plaintiff, [P-14], and a demonstrative exhibit all medical witnesses used when testifying [D.E. 43], in a patient with normal anatomy, the surgeon should uncover and expose the cystic artery while dissecting the Triangle of Calot. As was also clear through these demonstratives, the surgeon then would expect to find the cystic duct distal to, or below, the cystic artery; *not* spanning beside it. [D.E. 43.] This is important, because the common bile duct, like the cystic duct, is also distal to, or below, the cystic artery, while the common hepatic duct is not. [*Id.*] Therefore, it would be far more reasonable for a surgeon to believe mistakenly that a patient’s common bile duct was her cystic duct than it would be for that surgeon to conclude that a patient’s common hepatic duct was her cystic duct.

163. For this reason, the widely described “classic” injury is to the common *bile* duct, not the common *hepatic* duct. [*See supra* ¶ 33.] That injury usually takes place in the absence of negligence, primarily because of how the surgeon’s application of lateral traction to the gallbladder can make it convincingly appear as though the common bile duct and cystic duct are the same structure, both distal to (or below) the cystic artery. [*See supra* ¶¶ 33-34.]

164. In short, based on the relative location of the relevant structures, it is more reasonable for a surgeon to mistakenly clip and cut the common bile duct while meeting the standard of care than it is for them to clip and cut the common hepatic duct, as clipping the common bile duct shows he was dissecting in the correct area.

3. Dr. Simon's belief that the suspected accessory duct was the cystic duct is wrong and otherwise irreconcilable with his opinion that Ms. Greene did not have an anatomic variation

165. Moreover, Dr. Simon's opinion that the suspected accessory duct was actually Ms. Greene's cystic duct, [Tr. A, p. 85:13-17], is not supported by the records and is irreconcilable with his insistence that Ms. Greene had no variance to her biliary anatomy, [*Id.* at p. 96:13-17].

166. Initially, Dr. Simon's belief the accessory duct was the cystic duct is inconsistent with Dr. Kadry's findings. It is undisputed both that Dr. Pan ligated the suspected accessory duct, [*see supra* ¶ 108], and that Dr. Kadry found the common hepatic duct was ligated, [*see supra* ¶ 127]. She made no mention of a ligated "cystic" duct. [*See generally* D.E. 1-14.]

167. Moreover, as documented in Dr. Pan's Report and confirmed by Dr. Pan's and Dr. Ryan's testimony, it is factually undisputed that the suspected accessory duct connected the gallbladder directly to the liver bed. [*See supra* ¶ 99; D.E. 1-6, p. 2 (describing the accessory duct as running "straight between liver bed and gallbladder body").] But it is likewise undisputed that, in classic biliary anatomy, it is impossible

for the cystic duct to connect to the liver bed. [*See supra* ¶¶ 5-6.] Only the common hepatic duct connects directly to the liver. [*Id.*]

168. Therefore, Dr. Simon’s opinion is unsupported by the medical records and is incompatible with his insistence that Ms. Greene did not have an anatomical variation. Specifically, his opinion that the accessory duct was really the cystic duct could make sense only if Ms. Greene had variant anatomy, a point which he eventually conceded under cross-examination.⁹ [Tr. B, p. 178:13-16.]

* * *

169. The Court finds the evidence establishes that: (a) the structure Dr. Pan and Dr. Ryan believed to be the cystic duct, which Dr. Pan clipped and transected, was in fact the common bile duct; and (b) the duct connecting the gallbladder to the liver that Dr. Pan and Dr. Ryan believed to be an accessory duct, which Dr. Pan ligated and placed a drain within, was in fact the common hepatic duct.¹⁰

⁹ While, as described further, below, the Court concludes that Ms. Greene had variant biliary anatomy, it is not in the form of cystic duct running directly between the gallbladder and liver bed.

¹⁰ Dr. Pan’s observation made in his Report that Ms. Greene’s “[c]ommon bile duct was identified and was away from the surgery site” at first blush seems incompatible with this Court’s conclusion Dr. Pan had clipped and cut the duct earlier in the procedure, thinking it was the cystic duct. But that is not the case. As a preliminary matter, a surgeon is not supposed to intentionally dissect away the fatty/fibrous tissue surrounding the common bile duct. [Tr. A, p. 89:7-10 (Simon); Tr. B, pp. 46:13-25 (Pan), 91:19-25 (Iannarone).] Identification of the common bile duct occurs because surgeons detect the outline of the common bile duct underneath that undisturbed tissue. [*See* Tr. B, pp. 26:11-28:1, (Pan), 196: 9-11 (Iannarone).] While applying lateral traction to the gallbladder before clipping and transecting and structure connected to it, the common bile duct was pulled from its point of origin but instantly “snapped back”

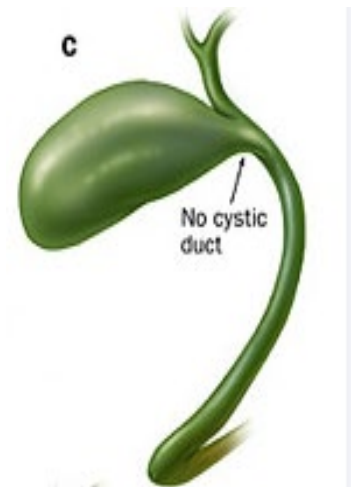
D. Plaintiff Failed to Prove that Dr. Pan Breached the Standard of Care

170. This, however, does not conclude the Court’s inquiry because it must determine whether the injury was merely an unfortunate medical outcome, as it usually is, or the result of negligence. Based on the evidence, the Court concludes Dr. Pan acted reasonably and the injury was an unfortunate medical outcome compounded by an anatomical variation.

1. Ms. Greene’s variant biliary anatomy explains how she experienced a common bile duct injury despite Dr. Pan complying with the standard of care

171. “Countless” variations in biliary anatomy have been documented, [Tr. A, p. 190:1-6], two of which are relevant to this case and render a classic common bile duct injury “unavoidable,” [Tr. B, pp. 103:21-104:2; *see also id.* at p. 88:16-19].

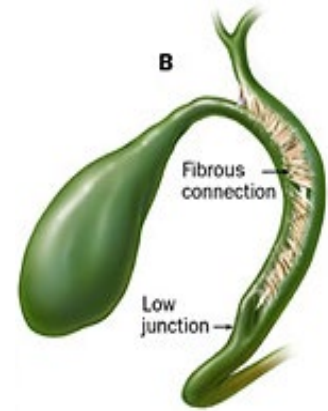
172. As has been documented in authoritative literature and confirmed in medical textbooks, 1-2% of patients have an abnormally short or absent cystic duct. [Tr. B, pp. 40:2-4 (Pan), 73:14-16 (Ryan), 102:9-11, 102:20-23, 103:5-11, 106:15-18 (Iannarone); D.E. 44.] In those patients, the gallbladder neck connects directly to the common duct,



to its original location, tucked away again underneath the fatty fibrous tissue, once the duct was transected. [Tr. B, 26:21 (Pan), 195:10-196:5-12 (Iannarone).] For this reason, Dr. Pan, after clipping and cutting what was in fact the common bile duct, still observed what he thought was an intact common bile duct underneath the tissue and away from the surgery site. [Tr. B, 26:21 (Pan), 195:10-196:5-12 (Iannarone).]

meaning the duct appearing to connect to the gallbladder is the common bile duct rather than the cystic duct. [*Id.*]

173. As has also been documented in authoritative literature and confirmed in medical textbooks, 7% of patients have a cystic duct that runs parallel to the common bile duct and both are encased in a fibrous sheath. [Tr. B, pp. 102:9-11, 102:24-103:4, 103:12-17, 106:13-15 (Iannarone); D.E. 44.] In such patients, while a cystic duct technically exists, the common



bile duct and cystic duct appear as a single structure connecting to the gallbladder. [*Id.*]

174. Either biliary variation results in the common bile duct, not the cystic duct, as the only duct that connects to, or appears to connect to, the gallbladder. [Tr. B, pp. 40:7-9, 104:19-106:7.]¹¹

175. There is a heightened risk of common bile duct injury associated with these variations because the anatomy suggests falsely that the surgeon reasonably identified the cystic duct when obtaining the CVS. [*See id.*]

¹¹ If Ms. Greene had a parallel, rather than a short/absent cystic duct, then it would merely “appear” that the gallbladder neck led directly to the common bile duct. This is because that structure runs parallel to the common bile duct, and the two are often wrapped in a common fibrous sheath, making the two separate structures appear to be a single structure. [*See supra* ¶¶ 173.] In that case, therefore, while the gallbladder neck technically would lead directly to the cystic duct, that would not visually appear to be the case, since the cystic duct would look to be one with the common bile duct. [Tr. B, p. 103:1-4.]

176. For example, in a patient with an absent cystic duct, the gallbladder neck connects directly to the common bile duct. Because the gallbladder neck normally connects to the cystic duct, the surgeon would reasonably conclude that he has successfully located the cystic duct, when he has actually revealed the common bile duct. This visual deception is compounded when the surgeon applies lateral traction to the gallbladder, which pulls the common bile duct sideways – still connected to the gallbladder and mostly obscured by peritoneum – from its normal position and toward the gallbladder. A similar visual deception would accompany a short or parallel cystic duct. In these scenarios, the common bile duct either does enter, or convincingly appears to enter, the gallbladder neck, even after a surgeon meticulously dissects the area and applies appropriate traction to the gallbladder to confirm only two structures entering the organ. [Tr. B, pp. 88:16-19, 104:19-106:7; *see also* Tr. B, pp. 103:21-104:2.]

177. Ms. Greene had one of these variations. [Tr. B, p. 106:19-25, 111:17-18.]

178. First, the Court agrees with Dr. Pan, Dr. Ryan, and Dr. Iannarone that the intraoperative photograph depicts only one duct connecting to the gallbladder. [D.E. 1-7; *see supra* ¶ 75.] It is factually undisputed Dr. Pan only applied clips to the duct depicted in the intraoperative photograph. [*See supra* ¶ 76.] Dr. Kadry found the only clips Dr. Pan had applied on the common bile duct. [*See supra* ¶ 127.] That the duct seen in the photo directly leading to the gallbladder was, in hindsight, the common bile duct is persuasive evidence that Ms. Greene had variant anatomy.

179. Second, it is factually undisputed that the suspected accessory duct that Dr. Pan ligated and placed a drain within connected the gallbladder directly to the liver bed. [See *supra* ¶¶ 99, 166.] This duct was in actuality the common hepatic duct. [See *supra* ¶ 127, 158-59.] Only in a patient with a short/absent cystic duct would the common hepatic duct directly connect the gallbladder (to which the cystic duct would usually connect) and liver (to which only the common hepatic duct connects). [See D.E. 44; *see also supra* ¶¶ 172-73.]

180. The Court also finds material Dr. Ryan's concurrence with Dr. Pan's interpretation of Ms. Greene's anatomy. [See *supra* ¶ 81.] Mindful that the standard of care is what a reasonable physician would do under like circumstances, the fact that two experienced, board certified general surgeons had no doubt in their minds they had identified and clipped the one duct entering the gallbladder further supports a finding Ms. Greene had variant anatomy. [See *id.*]

181. The Court rejects Dr. Simon's belief that the common bile duct connecting to the gallbladder directly just "doesn't happen," [Tr. A, p. 124:12-125:1], based on the testimony of all three other surgeons to testify at trial, [Tr. B, pp. 40:2-5 (Pan), 73:14-16 (Ryan), 101:10-18 (Iannarone)], as well as excerpts presented from medical literature, [*id.* at p.106:12-18], and multiple medical textbooks used to teach surgery residents, [*id.* at pp. 101:19-20, 102:7-104:2]. While Dr. Simon testified he was aware

of no authorities describing such a variation, he never disputed that these treatises are authoritative, reputable resources.¹²

182. The Court also notes that, despite testifying in certainties, after being confronted with the wealth of support that this variation does exist, Dr. Simon tempered his opinion, characterizing the variation as being “rare” – not nonexistent – and qualified that he personally had not seen it “in an elective case.” [Tr. B, p. 168:3-7.]

183. The Court also rejects Dr. Simon’s unqualified¹³ speculation that Dr. Kadry would have observed and documented variable biliary anatomy had it existed. [Tr. A, pp. 85:4-5, 124:5-11.] As Dr. Pan and Dr. Iannarone correctly observed – and commonsense would dictate – when Dr. Pan removed Ms. Greene’s gallbladder, he also would have removed any relevant variant biliary anatomy in that immediate area. [Tr. B, p. 49:1-6 (Pan), 111:18-21 (Iannarone).] The evidence of the variation, therefore, was gone from Ms. Greene’s abdomen by the time Dr. Kadry performed her procedures.

¹² While Dr. Simon pointed out that one text described this variation as usually occurring in patients with chronic inflammation, he also conceded that the pathology report established that Ms. Greene did, indeed, have chronic inflammation. [Tr. B, pp. 178:25-179:2.] Dr. Simon also conceded that this variation can be congenital. [*Id.* at p. 179:9-22.]

¹³ While Dr. Simon testified he believed Dr. Kadry would “absolutely” be required by the standard of care to document any anomalous anatomy she detected, [Tr. A, p. 124:5-11], Dr. Kadry was never deposed and, in any event, Dr. Simon, a general surgeon, is not qualified (and was not proffered) to offer opinions regarding the standard of care applicable to Dr. Kadry, a liver surgeon. 40 P.S. § 1303.512(a); *see, e.g., Miville v. Abington Mem’l Hosp.*, 377 F. Supp. 2d 488, 493 (E.D. Pa. 2005).

184. That specimen, of course, was not lost. After Ms. Greene’s gallbladder was removed, it was sent to the pathologist. [D.E. 1-6, p. 5.] Dr. Simon testified that, typically, “you have a remnant of the cystic artery and the cystic duct on the gallbladder when it’s removed from the body.” [Tr. A, p. 82:6-8.]. Yet, the pathologist who examined Ms. Greene’s gallbladder made no mention of a cystic duct.¹⁴ [*Id.* at p. 84:24-25.]

185. Therefore, the Court finds both the common bile duct and common hepatic duct connected, or at a minimum convincingly appeared to connect, directly to the gallbladder, which demonstrates Ms. Greene had a short/absent cystic duct or parallel cystic duct variation. [D.E. 1-7; *see supra* ¶ 75.]

186. Because Ms. Greene had a short/absent cystic duct, the Court finds it was reasonable for Dr. Pan to identify the common bile duct depicted in the intraoperative photograph as the cystic duct. That conclusion was reasonable because that structure is the only duct visibly connecting to the gallbladder, and the only duct that *should* connect to the gallbladder is the cystic duct. [D.E. 1-7; *see supra* ¶¶ 2-4, 72-73, 75; D.E. 44.]

¹⁴ Instead, Dr. Simon set up and knocked down a strawman, testifying that he interpreted the pathology report as supporting “there’s no accessory duct.” [Tr. A, pp. 84:24-85:3.] The defense’s theory has never been Ms. Greene in fact had an accessory duct.

187. Because Dr. Pan reasonably identified Ms. Greene’s common bile duct as her cystic duct, his clipping and transecting of that duct was not unreasonable. [*See supra* ¶¶ 23-24, 26.]

2. Dr. Pan did not clip Ms. Greene’s right hepatic artery, and Ms. Greene’s thrombosis occurred her vessel was short and narrow

188. A statistically significant relationship exists between common bile duct and right hepatic artery injuries. Specifically, in 25% of common bile duct injury cases, there is a correlating injury to the right hepatic artery. [Tr. B, pp. 112:20-113:1.]

189. Consistent with those statistics, an injury to Ms. Greene’s right hepatic artery accompanied her bile duct injury. The manner and cause of this injury, however, differs from that of the bile duct.

a. Dr. Pan did not clip Ms. Greene’s right hepatic artery

190. Contrary to Plaintiff’s theory, [Tr. A, pp. 8:24-9:1, 9:15-16], and despite initially testifying Dr. Pan “clipped the right hepatic artery,” [Tr. A, p. 91:7-11], Dr. Simon himself conceded that Dr. Pan had accurately identified, clipped, and transected Ms. Greene’s cystic artery, [Tr. A, p 120:7-10], just as a surgeon is supposed to do, [*see supra* ¶¶ 17, 27-28]. He opined, however, that Dr. Pan placed the clips on the cystic artery too close to the right hepatic artery, [Tr. A, pp. 119:25-120:10].

b. Ms. Greene's right hepatic artery thrombosed despite Dr. Pan complying with the standard of care

191. Dr. Iannarone explained that the standard of care is to place redundant clips because, if one should fail, the patient could develop an undetected internal bleed, leading to death. [Tr. B, p. 115:6-16.] Dr. Simon never disagreed with this testimony.

192. As Dr. Iannarone further explained, because Ms. Greene had a short cystic duct, her gallbladder was abnormally close to her right hepatic artery. [Tr. B, p. 115:1-5.] This meant that, in order for Dr. Pan to place the necessary three clips, he had no choice but to place the clips where he did. [Tr. B, pp. 115:6-2116:3.] This was not a violation of the standard of care. [Tr. B, p. 121:1-23.]

193. The clip applied to the cystic artery caused the narrow right hepatic artery to form a clot (thrombose) because, once Dr. Pan transected the cystic artery, he released the traction that had been applied to the gallbladder and connecting structures, resulting in the clip being brought toward the narrow right hepatic artery and causing turbulent arterial flow. [Tr. B, pp. 115:17-116:7.]

194. Dr. Simon's only response to this explanation was that Ms. Greene "[a]bsolutely [did] not" have a narrow right hepatic artery. [Tr. A, p. 89:22.] The Court rejects this testimony as contrary to the medical records. [See *supra* ¶¶ 129-30.] Indeed, Dr. Kadry twice document the narrow diameter of Ms. Greene's right hepatic artery. [D.E. 1-14, p. 2; D.E. 1-26, p. 1; *see also* Tr. A, pp. 99:13-25, 101:14-16.]

195. The thrombosis of Ms. Greene’s right hepatic artery, therefore, did not result from a failure of Dr. Pan to meet the standard of care. To the contrary, Dr. Pan correctly identified, clipped, and cut the cystic artery. Despite Dr. Pan meeting the standard of care, the location of Ms. Greene’s gallbladder resulted in the clip being placed toward the right hepatic artery after Dr. Pan released traction, which due to the artery’s small size, made it more susceptible to thrombosis.¹⁵

E. Dr. Pan obtained the Critical View of Safety

196. Both parties agree that Dr. Pan meets the standard of care if the Court find that he used the CVS technique when performing Ms. Greene’s Lap Chole.¹⁶ Dr. Iannarone opines that the evidence demonstrates Dr. Pan used the CVS technique, [Tr. B, p. 177:5-118:9], while Dr. Simon opines “[t]here is no documentation anywhere in

¹⁵ One final note concerning the right hepatic artery: Neither the cystic artery nor the right hepatic artery was the source of bleeding that caused Dr. Pan to convert to open. Dr. Iannarone explained that the bleeding was “completely unrelated” to the transection of the cystic artery or the clips near the right hepatic artery (Tr. B, p. 146:12), an observation that Dr. Simon did not dispute. Instead, the Court finds that the bleeding began after Dr. Pan had secured the cystic artery and began to complete the dissection of the gallbladder away from the liver bed. [*See supra* ¶¶ 87-97.] During that process, Dr. Pan had encountered a small branch vessel, distinct from the right hepatic and cystic artery.

¹⁶ The parties further agree that Dr. Pan could have met the standard of care through his use of an alternative to the CVS, known as the infundibular technique. But because Plaintiff has the burden to prove her specific theory that Dr. Pan did not use CVS – and because Dr. Pan and Dr. Ryan testified that they did use CVS – the Court first will consider whether a preponderance of the evidence supports Plaintiff’s primary theory. [*But see infra* ¶¶ 233-34.]

the medical record that states or shows that the operative procedure was done identifying the critical view of safety.” [Tr. A, pp. 87:24-88:1.]

197. Preliminarily, the Court notes that the medical record is only a portion of evidence upon which an expert may base his or her opinions. That Dr. Simon is a self-professed “advocate of the medical record only,” [Tr. A, p. 103:17], necessarily means he did not consider all the evidence in rendering his opinions.

198. Some of the most convincing facts in this case came from sources beyond the medical records, many of which the Court found were created in haste to facilitate Ms. Greene’s prompt transfer to HMC, [*see supra* ¶¶ 115-121], and included testimony from witnesses who had the opportunity to observe the events first hand.

1. The Court credits the testimony of only witnesses to the procedure, who testified consistently and unequivocally that Dr. Pan obtained the CVS

199. First, Dr. Pan unequivocally testified that he used the CVS technique during Ms. Greene’s Lap Chole. [Tr. A, p. 192:18-22; Tr. B, p. 7:4-13, 8:3-24.]

200. Dr. Pan’s career and background demonstrate he is an intelligent, conscientious, and diligent board-certified physician who knows how to perform Lap Choles. [*See supra* ¶51.] Indeed, he described the CVS technique with precision. [Tr. A, pp., 190:13-191:19.]

201. Dr. Pan had an independent recollection of Ms. Greene’s Lap Chole and, as the primary surgeon, had the opportunity and ability to see and know that he used

the CVS technique. [*See supra* ¶¶61-75.] He testified in a credible, professional, and unwavering manner.

202. Therefore, the Court finds Dr. Pan believable and credible.

203. Second, Dr. Ryan unequivocally testified that Dr. Pan used the CVS technique during Ms. Greene's Lap Chole [*See supra* ¶¶ 59, 68; Tr. B, p. 63:14-18.]

204. Dr. Ryan is a highly qualified board-certified physician, who has held leadership positions specifically targeted at evaluating physician's competencies and qualifications. [*See supra* ¶¶ 53-56.] She, too, knows how to perform Lap Choles and described the CVS technique, which she always uses, with precision. [Tr. B, pp. 56:14-57:12.]

205. Dr. Ryan likewise had an independent recollection of Ms. Greene's Lap Chole, [Tr. B, p. 63:6-9], and, as the assisting surgeon actively engaged in and speaking with Dr. Pan throughout the procedure, had the opportunity and ability to see, hear, and know that Dr. Pan used the CVS technique. [*See supra* ¶60.] She likewise testified in a credible, professional, and unwavering manner.

206. Additionally, Dr. Ryan has not been criticized at all, has no interest in the outcome of the case, and did not observe any other witness's testimony.

207. Therefore, the Court finds Dr. Ryan believable and credible.

208. Dr. Ryan's testimony fully corroborated Dr. Pan's testimony regarding his use of the CVS. As an active participant in Ms. Greene's Lap Chole, she directly observed every single step of the procedure on her own monitor that displayed the exact

video feed presented on Dr. Pan's separate monitor. [*See supra* ¶ 60.] Using the analogy of a sportscasting team, Dr. Ryan explained that she and Dr. Pan orally described to one another what they were seeing and thinking throughout the entire procedure. [Tr. B, p. 60:13-17.] Dr. Ryan testified not only that Dr. Pan used the CVS technique, [Tr. B, p. 63:14-16], but that both she and Dr. Pan had interpreted Ms. Greene's anatomy the same. [Tr. B, p. 66:1-6, 8.] That is, they both agreed that, after Dr. Pan had completed his dissection of the Triangle of Calot and the lower 1/3 of the gallbladder from the liver bed, they had accurately revealed a ductal structure that they both agreed was the cystic duct. [*Id.*; Tr. A, pp. 199:25-200:2.]

209. The Court finds it significant that both Dr. Pan and Dr. Ryan were not only satisfied with the method and extent of dissection, but also that such dissection had revealed what they were looking for – two, and only two, structures entering the gallbladder. Although the Court recognizes that, in hindsight, the ductal structure revealed was the common bile duct and not the cystic duct, Dr. Pan's and Dr. Ryan's independent yet identical interpretations of Ms. Greene's anatomy is persuasive evidence that something other than negligence explains the complications that followed Dr. Pan's clipping and cutting of the cystic artery and what he thought was the cystic duct.

2. The factual basis for Dr. Simon’s opinion that Dr. Pan did not obtain the CVS is not convincing

210. Despite the consistent factual testimony to the contrary offered by the only two witnesses to Ms. Greene’s Lap Chole, Dr. Simon opined that Dr. Pan did not obtain the CVS. Dr. Simon based his opinion on the fact that Ms. Greene sustained a bile duct injury and the following characterizations:

- a. Dr. Pan’s operative report did not describe the steps of CVS or expressly use the phrase “Critical View of Safety,” [Tr. A, pp. 86:24-87:3];
- b. There is “no evidence in the medical record” that Dr. Pan dissected what he thought was the cystic duct, [Tr. A, pp. 93:16-18; 86:16-18]; and
- c. “There is no documentation anywhere in the medical record that states or shows that the operative procedure was done identifying the critical view of safety,” [Tr. A, pp. 87:24-88:1].

211. A bile duct injury, in and of itself, is not evidence that Dr. Pan failed to use the CVS or otherwise failed to meet the standard of care. [*See supra* 35.] Indeed, Dr. Simon conceded that:

- a. “[A]s a general principle ... a common bile duct injury is a known complication in a lap chole,” [Tr., A, p. 115:9-11];
- b. “[C]ommon bile duct injuries are usually not due to negligence,” [Tr. A, p. 116:20-22]; and
- c. “[A] common bile duct injury can happen even where a surgeon uses the critical view of safety,” [Tr. A, p. 116:23-25).

212. The Court, therefore, cannot jump to the conclusion that Dr. Pan ignored the standard of care merely because a known complication transpired.

213. Similarly, the Court cannot find Dr. Pan did not use the CVS technique based upon the contents of Dr. Pan's documentation in the medical record.

- a. First, Dr. Simon conceded at trial that it does not necessarily follow from the operative report's silence that Dr. Pan did not use the CVS technique. [Tr., A, p. 114:14-16 ("So people can do the critical view of safety and not document it.").]¹⁷
- b. Second, the Court finds persuasive Dr. Pan's explanation that an operative report is not a play-by-play of the procedure and need only document those events that providers at HMC would need to know in order to assess and treat Ms. Greene. [Tr. A, p. 38:2-10; Tr. B, p. 193:6-17.] Dr. Pan reasonably concluded that those providers would need to know what he observed anatomically; what he believed he was clipping, ligating, and cutting; why he converted to open; and why he made the intraoperative consult, but the HMC providers would not need to know the surgical technique he used when identifying anatomy. [*Id.*]
- c. Relatedly, the Court finds that Dr. Ryan corroborated Dr. Pan's testimony that a physician's documenting they had identified the cystic duct and cystic artery implies the steps necessary to obtain the CVS were completed. [Tr. B, p. 75:14-16.]
- d. Third, unlike Drs. Pan and Ryan, Dr. Simon has never been licensed to practice medicine in Pennsylvania, [P-18], and the Court takes judicial notice that the Pennsylvania regulations applicable to Pennsylvania

¹⁷ Dr. Simon added, however, that he believes the standard of care requires a surgeon to memorialize he use of CVS in his operative note, and that Dr. Pan's failure to do so breached that standard. [Tr. A, p. 87:9-12; 112:5-6, 19-22.] While such an opinion is disputed, [*see infra* ¶¶213(b)-(h)], and notwithstanding the fact Dr. Simon testified to the opposite during his deposition, *i.e.*, that a surgeon who establishes the CVS but fails to document it in his operate report nevertheless "would have met the standard of care," [Tr. A, p. 113:20-21], whether a physician still breaches the standard of care by using but not documenting the CVS is irrelevant, as Dr. Simon correctly conceded that a failure to document could not cause Ms. Greene any harm. [Tr. A, p. 126:7-15.]

physicians requires a medical record to only contain “sufficient information to identify the patient clearly, to justify the diagnosis and treatment, and to document the results accurately.” 28 Pa. Code § 115.32. The Regulation does not require documenting the technique used by the surgeon. *See id.*

- e. Fourth, the Court finds persuasive that Dr. Ryan, despite always using the CVS technique during Lap Choles, does not routinely use the term critical view or safety or describe the steps she used to obtain the CVS in her operative reports, but instead documents only the fact of her dissection and visualization of the cystic duct and cystic artery, [Tr. B, pp. 57:13-58:1], just as Dr. Pan did here, [D.E. 1-6, p. 2].
- f. Fifth, the Court finds persuasive that the Lebanon VA does not have, and has never had, a policy requiring physicians to use the words “critical view of safety” or describe each and every step used to obtain the CVS. [Tr. B, pp. 58:2-9, 74:15:2.]
- g. Sixth, the Court finds persuasive Dr. Iannarone’s testimony that surgeons performing Lap Choles frequently do not document the technique they used to dissect and identify the relevant biliary structures, which he based on a 2017 study by the American College of Surgeons that analyzed the operative reports of 401 lap choles, and showed that only 257 reports included language that suggests the surgeon used the CVS and only 17% reports included the phrase “critical view of safety.” [Tr. B. 117:7-23.]
- h. Seventh, the Court remains mindful that Dr. Pan completed all his surgical documentation, including his Operative Report, expeditiously to effectuate Ms. Greene’s transfer to HMC. [*See supra* ¶¶ 115-121.]

214. Based on the foregoing, the Court concludes that the absence of CVS or description to obtain the CVS reflected in Dr. Pan’s operative report has little, if any, probative value, and considers Dr. Simon’s opinion based on the contents of the operative report unreliable.

3. The medical records corroborate the factual testimony that Dr. Pan obtained the CVS before clipping and transecting any structure

215. The Court finds disingenuous – and therefore rejects – Dr. Simon’s opinion that there is “[n]o evidence in the medical record,” [Tr. A, 93:16-18], that Dr. Pan had dissected what he thought was the cystic duct.

216. Dr. Simon’s opinion ignores the content of Dr. Pan’s Report that states unequivocally that the peritoneum “was easily dissected from cystic duct and gallbladder neck.” [D.E. 1-6, p. 2; *see also* Tr. A, pp. 97:23-98:15.] While the Court appreciates that a surgeon must do more than dissect the cystic duct in order to achieve the CVS, this portion of the operative report nevertheless documents that Dr. Pan did, in fact, dissect out what he thought was the cystic duct, and Dr. Simon’s opinion to the contrary mischaracterizes the medical record.

217. The Court further finds unreliable Dr. Simon’s opinion that “[t]here is no documentation anywhere in the medical record that states or shows that the operative procedure was done identifying the critical view of safety.” [Tr. A, pp. 87:24-88:1.]

218. Dr. Simon expressly recognizes an intraoperative photograph as an acceptable means to document a surgeon’s use of the CVS. [Tr. A, pp. 114:25-115:8.]

219. It is undisputed Dr. Pan took such an intraoperative photograph upon his completing the dissection processes and immediately before clipping and cutting. [D.E. 1-7; *see also supra* ¶ 70.]

- a. The intraoperative photograph is evidence Dr. Pan obtained the CVS before clipping and transecting any structure

220. As noted above, and based on the testimony of Dr. Pan, Dr. Ryan, and Dr. Iannarone, there are several critical conclusions that the Court draws from the intraoperative photograph:

- a. First, in the center of the photograph is a vertical ductal structure that appears to connect to the neck of the gallbladder, which itself is situated at the top of the photo. [*Supra* ¶¶ 72-73.] Dr. Pan and Dr. Ryan testified that this is the structure that they had identified as the cystic duct, a conclusion that Dr. Iannarone opined was reasonable given its apparent entry into the gallbladder. [*Supra* ¶¶ 73, 75.]
- b. Second, behind this ductal structure in the photograph is an arterial structure appearing to enter the gallbladder, which was undisputedly identified correctly by Dr. Pan. [*Supra* ¶ 190.]
- c. Third, these structures and their surrounding areas appear to be neatly cleared of all fatty/fibrous tissue, which is strong evidence that Dr. Pan had thoroughly dissected the Triangle of Calot, as was necessary to meet the standard of care. [*Supra* ¶ 75.]
- d. Fourth, the fact Dr. Pan undisputedly identified, clipped, and cut the cystic artery, situated just behind the ductal structure, which could only be correctly identified by doing an adequate dissection, [*supra* ¶ 74], further supports an adequate dissection of the Triangle of Calot.

- b. Dr. Simon's interpretation of the intraoperative photograph is not reliable or convincing.

221. Tellingly, although it had been part of the medical record Dr. Simon did not (1) reference the intraoperative photograph during his direct testimony, [Tr. B, p. 181:6-9], (2) disclose the intraoperative photograph as a basis for his opinions in either

of his pretrial expert reports disclosed during discovery, [Tr. B, p. 180:22-25], (3) or mention the intraoperative photograph during his expert deposition, [Tr. B, p. 181:1-5]. To the contrary, Dr. Simon only addressed the intraoperative photograph in rebuttal, after it was presented by the defense.

222. The Court does not find Dr. Simon's opinions based on the intraoperative photograph credible.

223. Despite Dr. Simon never mentioning the photograph until his rebuttal testimony, Dr. Simon testified that the photograph "was one of the pictures that gave him one of his opinions." [Tr. B, p. 170:15-16.] The Court does not find this testimony credible. Even overlooking Plaintiff's discovery obligations,¹⁸ if the intraoperative photograph in fact formed the basis for or supported Dr. Simon's opinions, the Court would expect Dr. Simon to offer the same during discovery and, at a minimum, his direct testimony. This is especially true considering the value Dr. Simon placed on the contents of the entirety of the medical record. [Tr. A, p. 103:17 ("I'm an advocate of the medical record only").] The first time the Court saw this evidence, however, was when it was offered by the defense.

224. Moreover, Dr. Simon's interpretation of the intraoperative photograph as showing only blood in the lower portion of the photograph, [Tr. B, pp. 170:18-24,

¹⁸ See F.R.C.P. 26(a)(2)(B)(i), (ii) (requiring disclosure of a complete statement of all opinions and the basis and reasons for the, along with the facts or data considered by the expert).

172:19-20, 172:22-24], which is also one of the darkest, least exposed areas of the photograph, is belied by the objective medical record. [D.E. 1-7.]

225. First, the Court agrees with Dr. Iannarone that the photograph does not show any blood. [Tr. B, pp. 189:23-24, 190:2.]

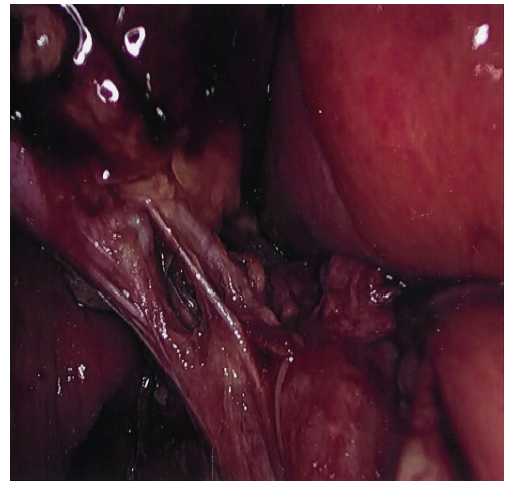
226. Second, the absence of blood makes sense, as both Dr. Pan and Dr. Ryan testified the intraoperative photograph was taken *before* clipping and cutting any structure, testimony which Dr. Simon conceded was consistent with the photograph that depicted the clip applier but no clips. [Tr. B, pp. 181:16-18; 181:25-182:3.] This is critical to the timeline because Dr. Simon additionally conceded that Dr. Pan had not encountered bleeding until returning to complete the dissection of the already partially-dissected gallbladder from the liver bed, [Tr. B, p. 182:4-10], which was *after* Dr. Pan had clipped and cut the structures. [See *supra* ¶¶ 87, 89.] In other words, the medical records make clear that the bleeding did not commence until well after Dr. Pan took the intraoperative photo, making further unreliable Dr. Simon's testimony that Ms. Greene's anatomy in the photo was obscured by blood stains from "a couple of hundred CC's of blood," [Tr. B, 172:16-24.]

227. Third, Dr. Simon assessment of the photo's quality is inconsistent. He initially testified that this intraoperative photograph provided the basis for his opinion, [Tr. B, p. 170:15-16 ("this was one of the pictures that gave me one of my opinions").] Then, he testified the intraoperative photograph is "blurry," and "not good quality," such that he could not "make out what's posterior to that blood." [Tr. B, pp. 170:23,

181:21-24.] Then, he testified that he could not “really ... tell whether there was a dissection done in the Triangle of Calot.” [Tr. B, pp. 172: 21-23, 170:22-24.]

228. Despite this, Dr. Simon also testified that the intraoperative photograph proved that Dr. Pan had not dissected the lower 1/3 of the gallbladder away from the liver bed, explaining that he can tell that the photo of the liver surface revealed no “operative intervention.” [Tr. B, p. 170:24-172:9.] That Dr. Simon repeatedly described the photo as blurry renders unreliable his opinion that Dr. Pan did not dissect the lower 1/3 of the gallbladder.

229. Moreover, the intraoperative photographs endorsed by Dr. Simon do not uniformly show such “operative intervention.” [See, e.g., P-14.] Therefore, whether Dr. Simon saw “operative intervention” in Dr. Pan’s intraoperative photograph has minimal, if any, probative value.



230. Dr. Simon’s opinion is also inconsistent with the remainder of the evidence presented at trial. Dr. Pan and Dr. Ryan both testified that they had dissected the lower 1/3 of the gallbladder from the gallbladder plate before clipping and cutting any structures or taking the intraoperative photograph. [*Supra* ¶¶ 66-67.]

231. Moreover, Dr. Simon never considered the possibility that the liver surface revealed no operative intervention because Dr. Pan had released traction on the

gallbladder before taking the photograph, at which point the gallbladder would have “flopped back down” into its original location, [Tr. B, p. 190: 23-24], thus covering any disturbance on the liver surface, [Tr. B, pp. 190:6-12, 190: 23-191:3).

232. In fact, Dr. Simon ultimately conceded the intraoperative photograph could have been taken without traction on the gallbladder, [Tr. B, p. 180:14-17], which, as Dr. Iannarone explained, would have reconciled why Dr. Simon saw no “operative intervention” on the liver surface despite Dr. Pan having dissected the lower 1/3 before clipping any cutting. [Tr. B, pp. 190:6-12, 190: 23-191:3.] Thus, Dr. Simon ended up conceding at least that the photograph was not definitive either way on the topic of Dr. Pan’s dissection of the lower 1/3 of the gallbladder.

4. Even had the Court credited Dr. Simon’s interpretation that the intraoperative photograph shows Dr. Pan did not dissect the gallbladder from the liver bed, such a finding would not establish negligence

233. Finally, even though this Court finds the weight of the evidence demonstrates Dr. Pan had properly dissected the lower 1/3 of the gallbladder from the liver bed before clipping or transecting any structure, resolution of this factual dispute has no legal consequence because:

- a. Dr. Simon conceded Dr. Pan could have met the standard of care had he used the infundibular technique as opposed to the CVS, [Tr. A, pp. 106:18-107:2; 109:6-11]; and
- b. The infundibular technique does not require the surgeon to dissect the lower 1/3 of the gallbladder from the liver bed before cutting and clipping. [Tr. A, p. 106:18-107:2 (“the infundibular is the same technique except

that you don't take down the gallbladder from the gallbladder plate"), 107:3-6; 109:6-11.]

* * *

234. For all of these reasons, the Court concludes that Ms. Greene has not proved by a preponderance of the evidence that Dr. Pan breached the standard of care. The Court finds Dr. Pan credible and is not persuaded that he negligently ignored using well-developed surgical techniques. The Court's conclusion is buttressed by the testimony of Dr. Ryan, who witnessed the entire procedure and who credibly testified that she not only witnessed Dr. Pan take the steps necessary to meet the standard of care, but that she completely agreed with Dr. Pan's assessment of Ms. Greene's anatomy. As the Government has argued throughout this case, Ms. Greene's injuries are known complications of a Lap Chole that can, often do – and here did – arise even in the absence of negligence.

IV. REQUESTED CONCLUSIONS OF LAW

1. Plaintiff has not established by a preponderance of the evidence that Dr. Pan breached his duty of care to Plaintiff during the 8/9/16 laparoscopic cholecystectomy. Dr. Pan clipped and transected the only two structures appearing to enter the gallbladder, which all experts agree is appropriate when performing a Lap Chole. [*See supra* ¶ 17.] *See Smith*, 194 A.2d at 170 (explaining a physician owes a duty to his patient to exercise the care and judgment of a reasonable man in like circumstances).

2. Dr. Pan exercised the care of a reasonable surgeon under like circumstances because the testimony of the only two witnesses to Dr. Pan's conduct and memorialization of the procedure in the medical record demonstrates he obtained the CVS before clipping or transecting any structure, which all experts agree comports with the standard of care during a Lap Chole. [*See supra* ¶¶ 64-68, 196-234.] *Toogood*, 824 A.2d at 1151

3. In the alternative, Dr. Pan exercised the care of a reasonable surgeon under like circumstances because, even fully crediting the testimony of Plaintiff's expert Dr. Pan did not dissect the gallbladder from the liver bed before clipping and transecting, Dr. Pan still used the infundibular technique that does not require such a step, which all experts agree is an alternative approach that comports with the standard of care during a Lap Chole. *Id.*; *Jones*, 610 A.2d 969. [*See supra* ¶ 234.]

4. With respect to the right hepatic artery thrombosis, Dr. Pan exercised the care of a reasonable surgeon under like circumstances because he clipped and transected only the cystic artery, which all experts agree is appropriate when performing a Lap Chole. [*See supra* ¶¶ 27-28, 195.]

5. Even if Dr. Pan was negligent, Plaintiff has not established by a preponderance of the evidence that Dr. Pan's negligence caused Plaintiff any harm. *Hamil*, 392 A.2d at 1284.

6. The conversion of Ms. Greene's Lap Chole to "Open" was caused by the bleeding Dr. Pan detected from a small branch vessel and entirely unrelated to Dr. Pan's clipping or transecting any structures. [*See supra* ¶¶ 94-97.]

7. Plaintiff has failed to establish that the bleeding from the small branch vessel was caused by any negligence, and Plaintiff's expert conceded he did not criticize Dr. Pan for converting the procedure to open. [*See supra* ¶ 95.]

8. Therefore, any sequelae from the Open abdominal incision, such as scarring or abdominal pain, would have been sustained even in the absence of Dr. Pan's negligence. *Hamil*, 392 A.2d at 1284.

9. Plaintiff has not established a claim for past or future medical expenses. [NT 5:11-15.] 40 P.S. § 1303.508(a), *Keifer v. Reinhart Foodservices*, 563 F. App'x 112, 116 (3d Cir. 2014).

10. Plaintiff has not established a claim for past or future lost wages or diminished earning capacity. [NT 5:11-15.] *Kaczkowski v. Bolubasz*, 421 A.2d 1027, 1030 (Pa. 1980); *Delahanty v. First Pa. Bank*, 464 A.2d 1243, 1261 (Pa. Super. 1983).

11. Plaintiff has not established a claim that she sustained liver damage or is at risk of future physical injury due to Dr. Pan's negligence. [*See supra* ¶ 138.]

12. Plaintiff has not offered sufficient evidence, and offered no expert opinion, to establish that Ms. Greene experiences any physical pain and suffering, including any chronic abdominal pain, related to Lap Chole. [*See supra* ¶ 139.] *See Toogood*, 824 A.2d at 1145.

13. In this respect, even to the extent Ms. Greene has any incisional abdominal pain, Plaintiff offered no expert testimony that such pain was caused by anything other than the conversion to open, which was not negligent and cannot form the basis for damages. [*See supra* ¶¶ 94-96, 142-144.]

14. However, even to the extent Ms. Greene has any abdominal pain, she has failed to mitigate such damages, because the same could be addressed by a simple injection, which she chose to not undergo despite her medical provider's recommendation. [D.E. 1-28, pp. 1-4; NT 168:4-23.] *Downs v. Scott*, 191 A.2d 908, 911 (Pa. Super. 1963) (citing Restatement (Second) of Torts § 918(1)).

15. Plaintiff has not offered sufficient evidence, and offered no expert opinion, to establish that Ms. Greene experiences any mental distress or suffering related to the Lap Chole, and it is undisputed she has never been diagnosed with a mental health condition or sought any type of psychological counseling, and has unanimously had negative depression or post traumatic stress disorder screenings. [*See supra* ¶¶ 145-147.]

16. Plaintiff has not established by a preponderance of the evidence that Ms. Greene experienced embarrassment or humiliation related to the Lap Chole, and it is undisputed any scarring is not visible in public.

17. Plaintiff has not established by a preponderance of the evidence that Ms. Greene lost the ability to enjoy the pleasures of life, and it is undisputed Ms. Greene exercises (to the extent her orthopedic issues allow), drives her truck and motorcycle,

completes activities of daily living, and has no food restrictions, and has gotten married and taken multiple domestic and international trips. [*See supra* ¶ 148.]

Respectfully submitted,

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Date: January 11, 2021

**UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA**

LORRAINE GREENE,

Plaintiff,

v.

THE UNITED STATES OF AMERICA,

Defendant.

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Case No: 1:18-cv-01962-CCC

CERTIFICATE OF SERVICE

The undersigned hereby certifies that he is an employee in the Office of the United States Attorney for the Middle District of Pennsylvania, and is a person of such age and discretion as to be competent to serve papers, and that, on January 11, 2021, he electronically filed with the Court's CM/ECF system attached:

**POST-TRIAL FINDINGS OF FACT AND CONCLUSIONS OF LAW OF
THE UNITED STATES OF AMERICA**

which system will automatically generate notice to:

John Fox

JohnFox@FoxLawPhilly.com

/s/ Richard D. Euliss

Richard D. Euliss